DAVYDOV, Ye.A., inzh.

Concerning the properties of aerial photographs taken on photo-semiconductor layers. Izv. vys. ucheb. zav.; geod. i aerof. no.5:87-89 '64. (MIRA 18:5)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii. Rekomendovana kafedroy aerofotos"yemki.

ACC NR: AP6025603 SOURCE CODE: UR/0413/66/000/013/0042/0042

INVENTOR: Davydov, Ye. Kh.

ORG: none

TITLE: Single-phase to three-phase transformer converter. Class 21, No. 183275

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 42

TOPIC TAGS: electric transformer, alternating current, electromechanic converter

ABSTRACT: This Author Certificate presents a single-phase to three-phase transformer converter consisting of a magnetic conductor with primaries and secondaries wound on it. To produce a symmetric current, the converter has two magnetic conductors with the primaries connected in series and the secondaries also interconnected in series. One end of the secondaries is connected to the center point of the primaries and the other end is connected to the load (see Fig. 1). The other two phases of the load are connected directly to the line.

Card 1/2 UDC: 621.314.254

ACC NR: AP6025603

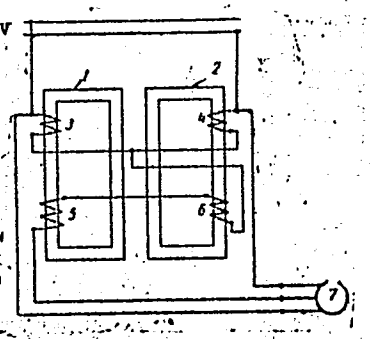

Fig. 1. 1 and 2 - magnetic conductors; 3 and 4 - primaries; 5 and 6 - secondaries; 7 - load

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 20Jan62

Card 2/2

BELOKRYLIN, Yu.F., inzh.; DAVYDOV, Ya.N., inzh.

Operation of the IVU 100/15x6 rectifier. Elek. i tepl. tiaga 2 no.9:18-19 S '58. (MIRA 11:10)
(Mercury-arc rectifier)

DAVYDOV, Ye.N., inzh.; RASKINA, TS.M., inzh.

Standard sand for cinder-pot molds. Mashinostroenie no.4: 92-93 Jl-Ag '64. (MIRA 17:10)

DAVYDOV, Ye.N., inzh.; RASKINA, TS.M., inzh.

Improving the technological process of steel casting. Mashinostroenie no.6:51-52 N-D '64 (MIRA 18:2)

DAVYDOV, Ye.N., inzh.; RASKINA, TS.M., inzh.

Using zirconium paint with ST paste additive in steel casting.
Mashinostroenie no.4:68-69 Jl-Ag '65. (MIRA 18:8)

L 3099-66 EWT(1)/EWT(m)/FCC DIAAP GS/GW

ACCESSION NR: AT5023931 UR/0000/65/000/000/0120/0131

AUTHOR: Vilenskiy, V. D.; Davydov, Ye. N.; Malakhov, S. G.

TITLE: Seasonal and geographical changes in the Pb^{210} content of the atmosphere

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 120-131

TOPIC TAGS: nuclear meteorology, radioactive aerosol, radioactive isotope, radioactive tracer, radioactive contaminant, atmospheric boundary layer

ABSTRACT: Systematic measurements made over a two-year period (1959-1960) of the concentration of radon and Pb^{210} in the surface boundary layer of the atmosphere over the Moscow region and on Kheys Island (Franz Josef Land) were used as the basic materials in a study of the interlatitudinal exchange of air masses in the polar and middle latitudes of the Northern Hemisphere. Measurements of the Sr^{90}/Pb^{210} ratios made it possible to study the influx of Pb^{210} and Sr^{90} into the atmosphere of the polar regions. In addition, an evaluation was made of the seasonal changes in the rate of purification of the Pb^{210} aerosol-carrier. Instrumen-

Card 1/2

L 3099-66

ACCESSION NR: AT5023931

tation and techniques are described, and the USSR data are compared with similar data for areas in Greenland, Canada, and Alaska. Orig. art. has: 5 figures and 3 tables. [ER]

ASSOCIATION: none

SUBMITTED: 28Apr65 ENCL: 00 SUB CODE: ES, NP

NO REF SOV: 010 OTHER: 010 ATD PRESS: 4101

Card 2/2

DAVYDOV, Yevgeniy Vasil'yevich; MOROZOV, Vladimir Fedorovich; VINOGRADOV, V.A., red.; VORONIN, K.P., tekhn.red.

[Communications and signaling in peat enterprises] Sviaz' i signalizatsiia na torfopredpriiatiiakh. Moskva, Gos.energ.izd-vo, 1959. 173 p. (MIRA 12:4)
(Peat industry) (Telecommunication)

DAVYDOV, Yu.

Fertilizers from waste products. Nauka i zhizn' 28 no.5:32 My '61.
(MIRA 14:6)

(Industrial wastes)
(Fertilizers and manure)

DAVYDOV, Yuriy

A running start. Rabotnitsa no.1:9-11 Ja '59. (MIRA 12:3)
(Bashkiria--Petroleum workers)

DAVYDOV, Yuriy

High tension. Rabotnitsa 37 no.4:6-8 Ap '59. (MIRA 13:1)

(Electrification)

67652

(24.1800

SOV/25-60-2-20/42

AUTHOR: Davydov, Yu., Engineer

TITLE: Ultrasound and Dust

PERIODICAL: Nauka i zhizn', 1960, Nr 2, p 64 (USSR)

ABSTRACT: The author describes the method of making use of dust-like waste by means of ultrasound which helps to overcome the difficulty of mechanical and electrical precipitation of fine dust particles suspended in gases. Under the influence of sound vibration among the particles suspended in gas, a force of attraction and repulsion develops. The vibrating particles collide, flow together and steadily increase in size. This makes it possible to clean gas from the dust by the usual method in a cyclone type apparatus. The capacity of foreign ultrasonic units is 120,000 cu m gas per hour. The unit is installed in thermal electric centers between furnace and stack. It consists of an acoustic radiatior and a chamber where the particles agglomerate. Presently, in the Soviet

Card 1/2

Ultrasound and Dust

Union, better installations are being developed. The ultrasonic method of purification makes it possible to collect particles of a size ranging between hundredths and 5 millionths of a millionths of a millimeter, i.e. consisting of several hundred atoms. There is 1 colored diagram on page 3 of centerfold.

Card 2/2

5.1115

80821

S/025/60/000/06/10/012

AUTHOR: Davydov, Yu.

TITLE: Molecular Sieve

PERIODICAL: Nauka i zhizn', 1960, No. 6, p 64

TEXT: A popular explanation is given of the polyethylene production process. The "molecular sieve" is the artificially prepared aluminum silicate, which is similar to natural mineral clays or feldspars (ceolites) in containing water in micropores and turning into microscopic sieves when dried. The process of cleaning ethylene from carbon oxide prior to polymerization is described and illustrated schematically (insert after p 64). The description is as follows: A layer of ceolite tablets is charged into each of two adsorber columns working in turn. When ethylene passes through the "sieves", the carbon oxide molecules are adsorbed, and purified ethylene goes into the polymerization plant. When one column is saturated with carbon oxide, it switches off and the other one starts working. Heated methane is used for regeneration of the "sieve". The method may be employed for cleaning; argon from remainders of oxygen, nitrogen from carbon oxide, hydrogen from water. The "sieves" can serve for storing volatile explosive or noxious gases

Card 1/2

88916

S/025/60/000/012/004/006
A166/A026

11.1160

AUTHOR: Davydov, Yu.

TITLE: The Creative Wave

PERIODICAL: Nauka i zhizn', 1960, No. 12, p. 33 and opposite page

TEXT: The article explains how a shock wave could act as the trigger for a desired chemical reaction in any gas or gas mixture. The advantage of the method lies in the fact that it would permit rapid heating of the gas and then very rapid cooling of the reaction products. The author illustrates the use of the shock wave in the production of nitric acid by the electric arc method. The basis of the method is a cylinder devided into 3 compartments by two diaphragms. The first compartment is the vacuum chamber, the second is filled with inert gas (e.g. helium) under pressure, while the third contains the mixture or gas for the reaction. Electrically or mechanically the diaphragm between the inert gas and the reaction gas, in this case air, is suddenly removed and the inert gas impedes upon the air as a shock wave. Due to the shock wave, molecules of nitrogen and oxygen are heated to a temperature of several thousand degrees within a few thousandths of a second, thus forming nitric oxides. Immediately the diaphragm of the vacuum chamber is collapsed and the gas expands into the chamber and is momentarily "quenched."

Card 1/ 2

88916

The Creative Wave

S/025/60/000/012/004/006
A166/A026

Due to the very rapid cooling the nitric oxides do not revert to oxygen and nitrogen and can then be passed into a water tower for conversion into nitric acid. The whole cycle in the reaction chamber is then repeated. The method could also be used for the production of acetylene from methane or for the oxidation of methane into other valuable chemical compounds. No industrial model of the shock-wave reactor exists yet, but Soviet scientists are working on the problem. There are 3 figures.

Card 2/2

DAVYDOV, Yu.

Atomic pile as a chemical reactor. Nauka i zhizn' 28 no.3:62 Mr '61.
(MIRA 14:3)

(Atomic reactor) (Chemical industries)

L 25916-66 EWT(d)/FSS-2

ACC NR: AP6016673 SOURCE CODE: UR/0106/65/000/011/0010/0016

AUTHOR: Davydov, Yu. G.

ORG: none

TITLE: Bases for calculation of predistortion in transmission of pulse signals

SOURCE: Elektrosvyaz', no. 11, 1965, 10-16

TOPIC TAGS: pulse signal, signal transmission

ABSTRACT: In order to avoid the necessity of using correcting quadripoles in transmission of pulse signals, another approach to linear correction can be used, in which the form of the signal to be transmitted is "pre-distorted" to account for the distortions in the equipment and channel. The possibility of calculating the "Pre-distorted" signals on the basis of the I -functions is shown and a methodology is presented. The author thanks A. M. Zayezdnyy for his valuable critique of this manuscript. Orig. art. has: 4 figures and 13 formulas. [JPRS]

SUB CODE: 18, 09 / SUBM DATE: 22May65 / ORIG REF: 003 / OTH REF: 003

Card 1/1 BLG UDC: 621.391.833.2

DAVYDOV, Yu.; LOPATNIKOV, L.; GLYAZER, L., red.

[Economists and mathematicians at the round table; materials] Ekonomisty i matematiki za "Kruglym stolom"; materialy. Moskva, Ekonomika, 1965. 206 p. (MIRA 18:4)

1. Soveshchaniye za "Kruglym stolom." Moscow, 1964.

ROZMAN, B.Yu.; SIVOLODSKIY, Ye.A.; DAVYDOV, Yu.A.; BYSTROV, A.N.

Thermal decomposition of ammonium nitrate. Zhur. prikl. khim. 31 no.7:1101-1102 Jl '58. (MIRA 11:9)
(Ammonium nitrate)

KRISHTAL, M.A.; DAVYDOV, Yu.I.; KORVACHEV, V.D.

Local spectral method of the quantitative determination of carbon in steel. Zav. lab. 30 no.8:950-952 '64. (MIRA 18:3)

1. Tul'skiy mekhanicheskiy institut.

KRISHTAL, M.A.; DAVYDOV, Yu.I.

Effect of chromium and tungsten on the thermodynamic activity of carbon in iron alloys. Izv. vys. ucheb. zav.; chern. met. 8 no.9:133-139 '65. (MIRA 18:9)

1. Tul'skiy politekhnicheskiy institut.

L 12170-66 EWT(m)/EWP(t)/EWP(b) IJP(c) JD/JW/JG

ACC NR: AP6000175 UR/0148/65/000/009/0133/0138

AUTHOR: Krishtal, M. A.; Davydov, Yu. I.

ORG: Tula Polytechnic Institute (Tul'skiy politekhnicheskiy institut)

TITLE: Effect of chromium and tungsten on the thermodynamic activity of carbon in iron alloys

SOURCE: IVUZ. Chernaya metallurgiya, no. 9, 1965, 133-138

TOPIC TAGS: thermodynamic characteristic, carbon, iron base alloy, chromium containing alloy, tungsten containing alloy, austenite, metal bonding

ABSTRACT: Since the experimental determination of the activity of C in Fe alloys usually infolves a time-consuming study of the equilibrium concentration of C in a melt with a gaseous mixture (CO-CO_2 or CH_4-H_2) of known composition, the authors offer a quicker method of determining the relative activity coefficient (f_C^{melt}) of C in multicomponent systems compared with the binary system Fe-C for which the C activities have been satisfactorily measured. Given the same atomic concentrations N_C of C in iron and in alloy, f_C^{melt} may be determined as follows:

$$f_C^{melt} = \left(\frac{a_C^{melt}}{a_C^{Fe}}\right)_{N_C = \text{const}}$$

UDC: 669.112.3.66-971

Card 1/2

L 12170-66

ACC NR: AP6000175

where a_C^{melt} and a_C^{Fe} are the C activities in the alloy and in iron, respectively. The effect of Cr and W on the thermodynamic activity of C in Fe-base alloys was investigated in specimens containing up to 6.3% Cr and 11.6% W following their annealing at 950 and 1150°C. It was found that the equiatomic concentrations of Cr and W have a virtually identical effect on the activity of C but their effect on the diffusion of C differs greatly. For example, a 4% (at.) Cr concentration (3.7% by wt.) reduces the effective diffusion coefficient D_e in the alloy by 50% as compared with D_e in iron and D_e of W (12% by wt.), by 90%. The corresponding changes in the true diffusion coefficient D_t of C are 10 and 80%, respectively. Hence, the retardation of the diffusion of C in the presence of Cr is chiefly due to the effect of Cr on the thermodynamic diffusion factor. Like Cr, W reduces the activity of C, but it reduces even further the mobility of C atoms (kinetic factor), which is apparently attributable to the greater increase in the bonding forces in austenite on alloying with W as compared with Cr. Orig. art. has: 3 figures, 8 formulas.

SUB CODE: 11, 20/ SUBM DATE: 23Mar65/ ORIG REF: 009/ OTH REF: 004

HW

Card 2/2

DAVYDOV, Yuriy Nikolayevich

[Work and freedom] Trud i svoboda. Moskva, Vysshaia shkola, 1962. 130 p. (MIRA 16:10)
(Labor and laboring classes)

S/186/61/003/002/006/018
E142/E435

21.3100

AUTHORS: Grebenshchikova, V.I. and Davydov, Yu.P.

TITLE: Investigations on the state of Pu^{IV} in dilute solutions of nitric acid

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.2, pp.155-164

TEXT: The authors investigated the conditions under which Pu^{IV} can exist in solutions in the ionic, colloidal or pseudo-colloidal state, at concentrations of plutonium of approximately 10^{-8} M. The valency of plutonium in the HNO_3 solution was controlled spectrophotometrically and by co-precipitation with zirconium phenyl arsonate. The experiments showed that the element occurred in solution in the tetravalent state. All Pu^{IV} solutions were prepared with three-times distilled water; the acid solutions were prepared by adding freshly distilled HNO_3, the basic solutions by addition of KOH. The pH of the solution was measured with a glass electrode connected into the circuit of a bulb (lamp) type potentiometer. Accuracy of the instrument being ± 0.05 pH units. The activity of the samples was measured with apparatus in which the ionization chamber was maintained under strictly constant

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E142/E435

Investigations on the state ...

geometrical conditions; the accuracy of measurement was 2 to 5%. In all the experiments, the concentration of plutonium was 6.8×10^{-8} M. The following methods of determination were employed: 1) adsorption of Pu^{IV} on glass; 2) ultrafiltration of the Pu^{IV} solutions; 3) centrifuging of the Pu^{IV} solutions; 4) migration of Pu^{IV} in an electric field. Methods 2, 3 and 4 are direct methods for the determination of the state of the element in solution. Ultrafiltration and centrifugation make it possible to determine whether the radioactive element forms colloids; and, in the affirmative case, to ascertain the percentage of colloidal particles at various stages of dispersion and changes in this percentage on changing the composition of the solution. The electromigration method allows the determination of the sign of the charge of the particles (positive or negative) and of the pH of the solution at which overcharging of the particles sets in (if this takes place). The authors investigated the changes in adsorption of Pu^{IV} on a glass surface in relation to the changes in the concentration of the H^+ ions in the solution. The time of adsorption was selected after studies on the adsorption kinetics

S/186/61/003/002/006/018
E142/E435

Investigations on the state ...

of Pu^{IV} at various pH-values of the solution. It was found that the rate of achieving adsorption equilibrium differed at various pH-values. This is explained by the fact that the degree of hydrolysis and the degree of hydrolysis-product polymerization must increase with decreasing concentration of the H^+ ions and lead to the formation of less and less mobile particles. At pH = 2.1 the time for attaining adsorption equilibrium was 1 hour; at pH = 7.3 it was 5 hours. The authors selected a 5 hour adsorption period as this time was sufficient for attaining adsorption equilibrium at all pH-values used in the described experiments. By comparing results obtained by the ultrafiltration of Pu^{IV} with those from adsorption experiments, the authors were able to gain some information on the state of plutonium in solution. Cellophane, with an average pore-diameter of 1 mμ, was used as ultra-filter; special apparatus, made of perspex, was used for the filtration experiments. The rate of filtration was increased by introducing into the apparatus nitrogen under a pressure of 8 to 10 atm. Control experiments were carried out by centrifugation tests in 2 cm^3 glass test tubes. Particles of

S/186/61/003/002/006/018
E142/E435

Investigations on the state ...

30 to 40 mμ diameter and larger were separated in these experiments and data obtained during these tests compared with values obtained in adsorption experiments; it was found that the dependence of the quantity of Pu^{IV}, separated during centrifuging, on the pH-changes of the solution was analogous to the dependence of the adsorption coefficient on the pH of the solution. Results obtained by investigations on the charge of Pu^{IV} at various pH-values are given in the form of a ratio between the activity in the anode or cathode field to the sum of the activities at the anode or at the cathode. Control experiments were carried out in the absence of an electric field, to account for possible diffusion of Pu during the experiment; very little diffusion was found to occur. The authors conclude that at concentrations of 6.8×10^{-8} M Pu^{IV} occurs in the ionic state (up to pH = 2.8), in the pseudo-colloidal state (between pH = 2.8 and 7.5) and in the colloidal state (between pH = 7.5 and 12.0). There are 6 figures, 4 tables and 15 references: 5 Soviet-bloc and 10 non-Soviet-bloc. The four most recent references to English language publications read as follows: K.A.Kraus, Proceedings of

Investigations on the state ...

the International conference on the Peaceful Uses of Atomic Energy, 7, 845 (1956); K.A.Kraus, F.Nelson, J.Am.Chem.Soc., 72, 9, 3901 (1950); D.W.Ockenden, G.A.Welch, J.Chem.Soc., 3358 (1956); M.H.Kurbatov, H.B.Webster, I.D.Kurbatov, J.Phys.Coll.Chem., 54, 1239 (1950).

SUBMITTED: July 12, 1960

Card 5/5

22971

21.3100

S/186/61/003/002/007/018
E142/E435

AUTHORS: Grebenshchikova, V.I. and Davydov, Yu.P.

TITLE: Adsorption of Pu^{IV} on the surface of glass

PERIODICAL: Radiokhimiya, 1961, Vol.3, No.2, pp.165-172

TEXT: Investigations on the adsorption of radioactive elements on ion-exchanging and non-exchanging surfaces (resins, filter paper, carbon, glass, teflon, polythene etc) are at present used for the determination of the state of radioactive elements which are contained in micro-quantities in solution. The state of radioactive element is a function of its concentration in the solution, the time elapsed since the preparation of the solution, the temperature and the pH of the solution etc; changes in the state of the investigated radioactive element in the solution can be deduced from variations in the adsorption, due to any of the above factors. Literature data show that the investigated element is, in the tetravalent state, similar to Zr^{IV}, Th^{IV}, U^{IV} and Ce^{IV} with regard to its hydrolytic properties and can thus be compared with these elements. The authors refer to work of I.Ye.Starik et al (Ref.8: ZhNKh, 2, 5, 1175 (1957) on the adsorption of Zr^{IV} on glass and on filter paper. The method of investigation, preparation of

Card 1/5

S/186/61/003/002/007/018
E142/E435

Adsorption of Pu^{IV} ...

solutions, measurement of pH and of the activity of the samples is identical to that described in the abovementioned work (Ref.10: V.I.Grebenshchikova, Yu.P.Davydov, Radiokhimiya, 3, 2, 165 (1961). One method of investigation consisted in determining the adsorption at the time of preparation of the active solution; a second method comprised the introduction of a fresh, adsorbing surface into the system in which the adsorption equilibrium between the walls of the vessel, the colloidal impurities in the solution and the solution itself had already been determined. In the latter method optical, polished quartz glass of given diameter and thickness was used. In all experiments the concentration of Pu was 6.8×10^{-8} M. No adsorption equilibrium could be attained within 10 hours at pH = 2.9; however, a sharp maximum appeared on the adsorption curve at pH = 3.0. The adsorption curve for Pu^{IV} is analogous to that obtained for Zr^{IV} and Th^{IV}. The increase in the adsorption of Pu^{IV} on quartz glass between pH 1.0 and 3.0 is connected with the decrease in the action of the H^+ ions at a decrease of their concentration in the solution. The decrease in the adsorption after reaching a maximum cannot be explained by the

S/186/61/003/002/007/018
E142/E435

Adsorption of Pu^{IV} ...

fact that the radioactive element forms colloidal particles which have a charge of the same sign as the surface of the glass, since at a concentration of approximately 10^{-8} M, Pu^{IV} forms negatively charge particles (colloids) at values of pH from 7.5 onwards. The authors suggest that this decrease in the adsorption coefficient of Pu^{IV}, after reaching a maximum value at pH = 3.0, is due to a primary process of irreversible adsorption of positively charged, hydrolysed forms of the element on the surface of solid impurities which are present in the solution. Desorption experiments were also carried out which showed that the desorption of Pu^{IV} decreases from pH = 3.1 to 3.2 onwards. At pH < 3.2 the adsorption of Pu^{IV} is reversible and the introduction of a fresh adsorbing surface will disturb the equilibrium of the system so that Pu^{IV} will be distributed between the solid surface and the solution. Results of investigations of the adsorption kinetics on quartz glass show that a desorption of the radioactive element occurs in this case rather than an adsorption of Pu^{IV} on the surface of quartz glass. Conditions prevailing at pH > 3.2 are also discussed. A decrease of the coefficient of adsorption at pH > 3.0 does not

induce the formation of negatively charged colloids of Pu^{IV}; this is indicated by experiments on the electro-migration carried out with large quantities of Pu^{IV} at approximately 10^{-5} M. At this concentration adsorption on the impurities, present in the solution, is small and the obtained results therefore indicate the behaviour of Pu^{IV}. Changes in the properties of Pu^{IV} are possibly due to hydrolysis and the therewith connected polymerization. The mechanism of hydrolysis is explained as a process taking place in three stages: 1) the formation of simple monomers; 2) the formation of low-molecular polymers; 3) the formation of high-molecular polymers which are not in equilibrium with the monomers. From pH = 3.0 hydrolysis and polymerization lead to the formation of particles of colloidal dimensions: these particles lose their characteristics and show the properties of pseudo-colloids. Although it is difficult to prove with existing methods of investigation, it can be assumed that radioactive elements (in micro quantities) are adsorbed on colloidal impurities in the form of colloidal particles. There are 4 figures, 4 tables and 14 references: 8 Soviet-bloc and 6 non-Soviet-bloc. The four most recent references to English language publications read as

S/186/61/003/002/007/018
E142/E435

Adsorption of Pu^{IV} ...

follows: J.J.Schubert, J.W.Richter, J.Coll.Sci., 5, 376 (1950); K.A.Kraus, F.Nelson, J.Am.Chem.Soc., 72, 9, 3901 (1950); S.W.Rabideau, I.F.Lemons, J.Am.Chem.Soc., 73, 6, 2895 (1951); K.A.Kraus, The Transuranium elements. N.Y., 246, 519 (1949).

SUBMITTED: July 12, 1960

Card 5/5

DAVYDOV, YU. P. and S. YA. SOROKIN.

Listovaia shtampovka magnievykh splavov. (Vestn. Mash., 1951, no. 2, p. 26-32)

Includes bibliography.

(Sheet stamping of magnesium alloys.)

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SORCKIN, S. YA., ENG., DAVYDOV, YU. P. ENG.

Extrusion (Metals)

Deep extrusion of aluminum alloys and heating of the deformed blanks. Vest. mash. 32, no. 2, 1952.

Monthly List of Russian Accessions. Library of Congress, October 1952. Unclassified.

DAVYDOV, Yu. P.

Davydov, Yu. P.; I. G. Kovalev; and G. V. Pokrovkiy. Special Features of Sheet Forming of Aircraft Steel and Aircraft Alloys. p.103

Pressure Treatment of Alloys; Collection of Articles, Moscow, Oborongiz, 1958, 141pp.

DAVYDOV, Yu.P.

SOV/24-58-4-36/39

AUTHOR: Solomonov, K.

TITLE: Application of Technological Lubricants and Special Coatings During Shaping of Metals by Applying Pressure (Primeneniye tekhnologicheskikh smazok i spetsial'nykh pokrytiy pri obrabotke metallov davleniyem)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, p 153 (USSR)

ABSTRACT: The conference was held in December, 1957. The following papers were read: "General Relations and the Mechanics of Operation of Lubricants During Shaping of Metals by Applying Pressure" by V.I. Likhtman, G.Ya. Vaylas (Institut fizicheskoy khimii AN SSSR - Institute of Physical Chemistry of the Ac.Sc.USSR); "Application of Principles of the Hydrodynamic Theory to the Process of Cold Stamping" by Ye.I. Isachenkov (MIAP); "New Stamping Lubricants for Deep and Particularly for Very Deep Drawing of Components made of Sheet Steel" by M.E. Silitskiy (Gor'kovskiy avtozavod - Gorkiy Automobile Plant); "Lubricants for Stamping Sheet of Steel and of Various Alloys" by Yu.P. Davydov (VIAM);

Card1/4

Application of Technological Lubricants and Special Coatings During Shaping of Metals by Applying Pressure
Conference at the Institute for Mechanical Engineering of the Ac.Sc.USSR

"New Lubricants for Wire Drawing" by T.G. Fairman (Yaroslavl'); "Investigation of Technological Lubricants Applied for Hot Stamping of Metal Components" by S.A. Povnar (Minsk Polytechnical Institute im. I.V. Stalina); "Investigation and Testing of Certain Technological Lubricants and Methods of Applying These on the Dies of Presses During Hot Stamping of Aluminium Alloys" by E.E. Shor (Leningrad); "Lubricants Used in Shaping of Iron by Pressure" by [illegible] Chuvikovskiy (Aviatsionnyy zavod - Aviation Works). The Conference in the individual papers show the increasing use of liquid pastes and solid technological lubricants and special coatings in highly efficient processes of shaping metals by applying pressure in the production of complicated components from various heavy and light and refractory alloys. The undertakings of the chemical and the oil industries have so far not organised the

Card2/4

production of the appropriate lubricants and the instrument industry does not produce instruments for determining the main parameters of these lubricants. So far investigations by individual institutes of the Ac.Sc.USSR on technological lubricants have not been carried out on a sufficiently large scale and have not been adequately co-ordinated. The same applies to other institutes.

G.Ya. Vaylas (Institut fizicheskoy khimii AN SSSR - Institute of Physical Chemistry of the Ac.Sc.USSR) reported on work in the field of lubricants for cold stamping. Since the result of this work is little known, it was proposed to devote to it a specially convened extended seminar at the Institute of Mechanical Engineering of the Ac.Sc.USSR.

Co-ordination was urged of the research work in the use of lubricants for shaping of metals by pressure and this

Card3/4

task should be undertaken by the Laboratoriya obrabotki metallov davleniyem Instituta mashinovedeniya AN SSSR (Laboratory for Shaping of Metals by Pressure of the Institute of Mechanical Engineering of the Ac.Sc.USSR). The importance was pointed out of putting onto the market instruments for determining the main parameters of lubricants and also of automatic equipment for testing work out standard specifications for technological lubricants and also recipes and methods of analysis of industry of standard technological lubricants. At regular intervals, symposia should be published on technological lubricants and special coatings used in the shaping of metals by applying pressure.

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15.6100

S/137/61/000/001/010/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 1, pp. 17 - 18, # 1D157

AUTHOR: Davydov, Yu.P.

TITLE: Friction and Lubrication in Sheet Press Forming of Steels and Alpys

PERIODICAL: V sb. "Tekhnol. smazki dlya obrabotki metallov davleniyem", Moscow, Mashgiz, 1960, pp. 24 - 36

TEXT: This is a review of various lubricants used in deep extrusion of various sheet materials. The coefficient of external friction in deep extrusion is according to experimental data 0.04 - 0.2. The basic requirements to lubricants are discussed: 1) the ability of producing a resistant continuous film, 2) oiliness, 3) the ability of adhesion on friction surfaces; 4) chemical stability, 5) scale resistance, 6) corrosion resistance, 7) easy application and removal, 8) harmlessness, 9) economicity. The author presents prescriptions

Card 1/2

S/137/61/000/001/010/043
A006/A001

Friction and Lubrication in Sheet Press Forming of Steels and Alloys

of the most efficient lubricants used in cold press forming of Al-alloys, low-carbon and low-alloy steels, cold press forming of high-strength materials with high deformation resistance and for hot press-forming of various steels and alloys. Recommendations are given how to reduce friction. There are 11 references.

V. B.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

DAVYDOV, Yu. P.

PHASE I BOOK EXPLOITATION 30V/3791

Soveshchaniye po obrabotke zharoprochnykh splavov, Moscow, 1957.

Obrabotka zharoprochnykh splavov; [sbornik dokladov...] (Treatment of Heat-Resistant Alloys; Collection of Papers Read at the Conference), Moscow, Izd-vo AN SSSR, 1960. 231 p. 3,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut mashinovedeniya. Komissiya po tekhnologii mashinostroyeniya; Akademiya nauk SSSR. Institut metallurgii im. A.A. Baykova. Nauchnyy sovet po problemam zharoprochnykh splavov.

Resp. Ed.: V.I. Dikushin, Academician; Ed. of Publishing House: V.A. Kosov; Tech. Ed.: V.V. Bruzgul'.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The book consists of thirty papers read at the Conference on the Treatment of Heat-Resistant Alloys held in Moscow by the Committee on Machine-Building Technology, Institute of the Science of Machines, Academy of Sciences USSR, in 1957. The papers deal with four principal areas of alloy metallurgy: casting, forming, machining, and welding. The alloys (together with refractory carbides, borides, nitrides, and oxides) are discussed especially in connection with their application in the manufacture of turbine blades, heat engines, boilers, reactors, containers for high-temperature media, dies, casting molds, and metal-cutting tools. No personalities are mentioned. Some of the articles are accompanied by references, mainly Soviet.

35911
S/123/62/000/004/012/014
A004/A101

1.1600

AUTHORS: Davydov, Yu. P., Pokrovskiy, G. V.

TITLE: The drawability of sintered aluminum powder sheets

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 4, 1962, 11, abstract 4V61 (V sb. "Teploprochn. material iz spechen. alyumin. pudry (SAP)", Moscow, Oborongiz, 1961, 66 - 76)

TEXT: The authors investigated the drawability of sheets from sintered aluminum powder. A preliminary analysis of the mechanical properties showed a low drawability of sintered aluminum powder in view of the insignificant difference between σ_b and σ_s, which results in a narrow range of plastic deformation. Tests were carried out in deep drawing, flanging, stamping and bending. At room temperature it is only possible to obtain from sintered aluminum powder bent parts with smooth transitions. At temperatures in the range of 420 - 470°C the drawability of sintered aluminum powder considerably improves and is not inferior to the drawability of sheets from aluminum alloys in the cold state; it is possible to produce intricate components.. To remove hardening during deformaion, the parts are annealed at 450°C for 5 - 10 hours. It is recommended to effect

Card 1/2

DAVYDOV, Yuriy Petrovich; POKROVSKIY, Grigoriy Vasil'yevich; ABRAMOV, A.M., kand.tekhn.nauk, retsenzent; MAKOVSKIY, G.M., inzh., red.; SHEYNFAYN, L.I., red. izd-va; NOVIK, A.Ya., tekhn. red.

[Sheet stamping of steel and alloys with addition elements] Listovaia shtampovka legirovannykh stalei i splavov. Moskva, Oborongiz, 1962. 198 p. (MIRA 15:7)

(Sheet-metal work)

PHASE I BOOK EXPLOITATION SOV/6437

Davydov, Yu. P., Candidate of Technical Sciences, and G. V. Pokrovskiy, Engineer

Tekhnologiya listovoy shtampovki titanovykh splavov (Technology of Titanium Alloy Sheet Stamping) Moscow, Mashgiz, 1963. 69 p. Errata slip inserted. 3500 copies printed.

Ed. of Publishing House: M. F. Ragazina; Tech. Ed.: N. F. Damkina and F. P. Mel'nichenko; Managing Ed. for Literature on the Hot Working of Metals: L. A. Osipov, Engineer.

PURPOSE: This booklet is intended for engineering personnel of plants concerned with the development of engineering processes and for students at schools of higher technical education and tekhnikums who are studying problems connected with the forming of titanium alloys.

Card 1/4

DAVYDOV, Yu.P., kand. tekhn. nauk; POKROVSKIY, G.V., inzh.;
RAGAZINA, M.F., red.izd-va; DEMKINA, N.F., tekhn. red.

[Technology for the die stamping of titanium alloy sheet] Tekhnologiia listovoi shtampovki titanovykh splavov. Moskva, Mashgiz, 1963. 69 p. (MIRA 16:4)
(Titanium alloys) (Sheet-metal work)

DAVYDOV, Yu.P.; POKROVSKIY, G.V.; KONDRAT'YEVA, N.B.; Prinimali uchastiye: KUZ'MICHEV, M.D.; LOMONOSOVA, A.A.; KUZ'MINA, S.P.

Mechanical properties and the forgeability of alloys of the system aluminum - magnesium. Alium. splavy no.3:285-299 '64.

Forgeability of peened magnalium-type alloys. Ibid.:300-312 (MIRA 17:6)

GREBENSHCHIKOVA, V.I.; DAVYDOV, Yu.P.

State of $Pu^{(IV)}$ in the pH = 1.0 - 12.0 region at 2.10^{-5}M plutonium concentration. Radiokhimiia 7 no.2:191-195 '65. (MIRA 18:6)

PHASE I BOOK EXPLOITATION SOV/6068

Davydov, Yuriy Petrovich, and Grigoriy Vasil'yevich Pokrovskiy

Listovaya shtampovka legirovannykh staley i splavov (Sheet Stamping of Alloyed Steel and Alloys) Moscow, Oborongiz, 1962. 198 p. 6550 copies printed.

Reviewer: A. M. Abramov, Candidate of Technical Sciences; Ed.: G. M. Makovskiy, Engineer; Ed. of Publishing House: L. I. Sheynfayn; Tech. Ed.: A. Ya. Novik; Managing Ed.: A. S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for process engineers of stamping shops and for design engineers. It may also be of use to scientific research workers engaged in research work connected with the pressure working of metals.

COVERAGE: The authors' investigations concerning the stamping of alloy steel and alloy sheets, which were carried out over a number of years, are summarized. The properties of aluminum,

Card 1/2

magnesium, and titanium alloys, as well as those of stainless-steel, heat-resistant-alloy, and refractory-alloy sheets are discussed in relation to their formability . Methods of evaluating the formability of sheet materials are described and technological features of the stamping of alloy steels and alloys are discussed. Information is given on lubricants, heat treatment, die materials, and other subjects connected with the stamping process. The 08KP, 12G2A, 25KhGSA, 30KhGSA, 20KhGSNA, and 30KhGSNA are among the carbon and low-alloy steels discussed in Ch. II. Ch. III deals with special types of steels and alloys. Among them are the Kh15N9Yu (or SN-2) and Kh17N5M3 (or SN-3) precipitation hardenable steels, the EI654, EI696, EI696A, EI835, EI602, EI703 and numerous steels, counterparts of the AISI 300 and 400 series, and chromium. The D19, D20, AMg6, and SAP alloys are mentioned in Ch. IV. Ch. VI discusses the stamping of Ti-alloys of the OT and VT series. The authors thank technicians O. M. Munykin, M. D. Kuz'michev, and I. I. Pantyushin for their participation in the experiments. There are no references.

ACCESSION NR: AT4037669 S/2981/64/000/003/0285/0299

AUTHOR: Davy*dov, Yu. P.; Pokrovskiy, G. V.; Kondrat'yeva, N. B.

TITLE: Mechanical properties and stampability of magnalium alloys

SOURCE: Alyuminiyevy*ye splavy*, no. 3, 1964. Deformiruyemy*ye splavy* (Malleable alloys), 285-299

TOPIC TAGS: aluminum alloy, magnalium, magnalium mechanical property, magnalium stampability, magnalium corrosion resistance, annealing, cold hardening, magnalium cupping, magnalium flanging, magnalium flat extrusion, magnalium round extrusion

ABSTRACT: The authors report on a study of mechanical properties and stampability of magnalium sheets from series AMg1 through AMg9 (see Table 1 of the Enclosure). The material is classified as soft (annealed), quarter-hardened (5-15% reduction), semi-hardened (20-30%) or hardened (35-50%). Mechanical properties of annealed material varied as follows for subsequent cold reductions of 10-15%, 25-30% and 40-45% respectively: tensile strength plus 20-30, 30-40 and 40-50%; yield plus 70-90, 120-130 and 200-250%; elongation minus 40-60, 60-70 and 70-75%. Temperatures up to 100C did not affect mechanical properties. Tensile strength and yield dropped sharply at 100-250C and more gradually at 250-370C, to levels of 3-6 and 2-5 kg/mm^2, respectively at 350-370C. Elongation increased sharply at

Card 1/4

ACCESSION NR: AT4037669

100-370C, up to 100% at the latter temperature. Stampability was good, the material did not require laborious finishing procedures, ratio of yield to tensile strength averaged 0.5, lateral contraction and relative elongation approximated those of sheet aluminum and were higher than for other standard aluminum alloys, and uniform deformability levels were high. Stampability of cold material (cupping, flanging, flat and round extrusion) decreased as Mg increased from 0.5 to 3.6%, then rose again to roughly the original levels as Mg increased further to 9%. It was quite adequate even at its lowest levels (AMg3). Recommendations are given for optimal results of each of the named stamping operations. Best corrosion resistance is retained by annealing at 310-335C for 30 to 180 min. "M. D. Kuz'michev, A. A. Lomonosova and S. P. Kuz'mina also took part in the work." Orig. art. has: 12 graphs, 1 table and 4 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 04Jun64 ENCL: 02

SUB CODE: MM NO REV SOV: 000 OTHER: 000

Card 2/4

ACCESSION NR: AT4037669 ENCLOSURE: 01

alloy designation	Chemical composition in %									Mechanical properties		
	Mg	Mn	Be	Cr	Ti	Fe	Si	Zn	Cu	tensile strength	yield	elongation
AMg1	0,5—1,8	—	—	—	—	<0,05	<0,05	—	<0,01	9,0—15,5	3,4—6,0	20,0—37,7
AMg2	1,8—2,8	0,2—0,6	—	—	—	<0,4	<0,4	—	<0,1	16,9—23,2	7,2—11,2	24,1—27,3
AMg3	3,2—3,8	0,3—0,6	—	—	—	<0,5	0,5—0,6	<0,2	<0,05	22,6—25,2	11,6—13,3	24,8—26,0
AMg4	3,8—4,8	0,3—0,6	—	—	—	<0,4	<0,4		<0,05	23,9—28,7	12,4—15,6	25,2—28,2

Card 3/4

ACCESSION NR: AT4037669

ENCLOSURE: 02

AMg5	4,8—5,5	0,3—0,6	—	—	—	<0,5	<0,5		<0,05	29,7—30,7	15,9—17,1	27,0—27,5
AMg6	5,8—6,8	0,5—0,8	0,0001—0,005	—	0,02—0,1	<0,4	<0,4	<0,2	<0,1	31,3—34,9	16,0—17,5	27,2—28,8
AMg7	6,8—7,8	0,3—0,5	0,0001—0,005	До 0,1	—	<0,4	<0,4	—	<0,05	32,2—36,5	15,4—17,2	26,4—29,3
AMg9	8,5—9,5	0,2—0,5	0,0001—0,005	До 0,1+ + до 0,1%Zr	—	<0,4	<0,4	—	<0,05	35,4—39,5	16,2—18,1	27,2—30,3

Table 1. Composition and properties of magnalium alloys

Card 4/4

ACCESSION NR: AT4037670 S/2981/64/000/003/0300/0312

AUTHOR: Davy*dov, Yu. P.; Pokrovskiy, G. V.; Kondrat'yeva, N. B.

TITLE: Stampability of cold worked magnalium alloys

SOURCE: Alyuminiyevy*ye splavy*, no. 3, 1964. Deformiruyemy*ye splavy* (Malleable alloys), 300-312

TOPIC TAGS: aluminum alloy, magnalium, malleable alloy, deformable alloy, cold worked alloy, alloy stampability, alloy AMg1, alloy AMg2, alloy AMg3, alloy AMg4, alloy AMg5, alloy AMg6, alloy AMg7, alloy AMg9, alloy D16, alloy hardness, alloy mechanical property, alloy annealing temperature, alloy corrosion resistance

ABSTRACT: A series of magnalium alloys of the system Al-Mg and alloy D16 were tested for stampability characteristics (elongation limit, critical beading factor, extrusion ratio, 90° bend radius) in relation to stamping temperature, duration and temperature of annealing, as well as the level of cold working (10 or 20%). Other tests concerned the effect of annealing temperature on hardness and interrelations between hardness and tensile strength of magnalium alloys. The latter dependence was plotted (see Figure 1 in the Enclosure) and

Card 1/3

ACCESSION NR: AT4037670

the graph is recommended as a guide in controlling mechanical properties. Results were verified by factory beading, bending and extruding of cold-worked sheets at 200-250C or after preliminary annealing (commercial) at such temperatures. Tensile strength of the stamped pieces was not less than 38-40 kg/mm^2, as compared to 40-45 kg/mm^2 for the original material prior to stamping. Partial cold hardening (10%) is recommended. Corrosion resistance dropped when stamping temperature exceeded 310-335C. "M. D. Kuz'michev, A. A. Lomonosova and S. P. Kuz'mina also took part in the work." Orig. art. has: 15 graphs and 2 tables.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 04Jun64 ENCL: 01

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/3

ACCESSION NR: AT4037870

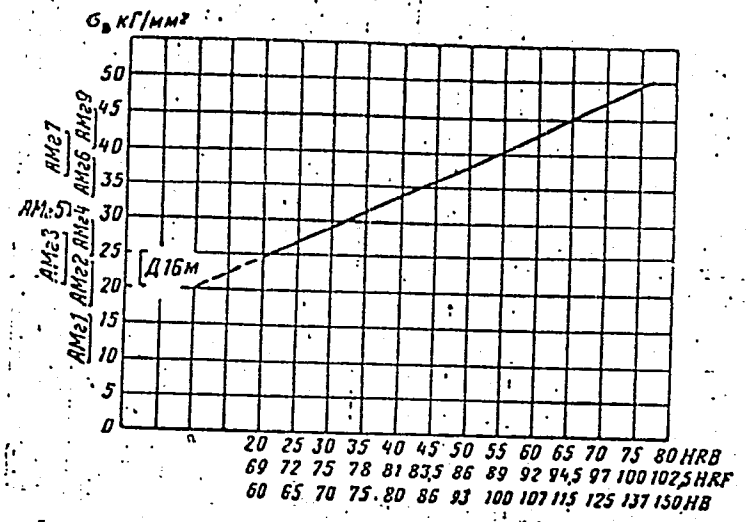

Fig. 1 - Relationship between ultimate strength and hardness of alloys of the magnalium type.

Card 3/3

KIRILLOV, A.A.; SINYAKOV, V.K.; DAVYDOV, Yu.S.

Determining the slopes of embankments of underwater pepeline trenches in loose soils. Stroi. truboprov. 8 no.8:14-16 Ag '63. (MIRA 16:11)

DAVYDOV, Yu.

DAVYDOV, Yu., kandidat tekhnicheskikh nauk; FOMIN, A., kandidat tekhnicheskikh nauk; SHEREMET'YEV, M., kandidat tekhnicheskikh nauk.

Testing air conditioning systems in passenger cars with centralized power supply. Khol.tekh. 31 no.3:11-15 Jl-S '54. (MLRA 7:9)
(Railroads--Cars--Heating and ventilation)

DAVYDOV, Yu.

DAVYDOV, Yu., kandidat tekhnicheskikh nauk.

Stuffing box for freon compressors. Khol.tekh. 31 no.3:69 Jl-S '54.
(Compressors) (MLRA 7:9)

DAVYDOV, Yu., kandidat tekhnicheskikh nauk.

Automatic control of the cooling system of a passenger railroad car.
Khol.tekh. 32 no.4:37-40 O-D '55. (MIRA 9:4)
(Railroads--Cars--Heating and ventilation) (Automatic control)

DAVYDOV, Yu.S.

"Sauter" TVBC-1 two-way temperature regulators. Priborostroenie no.11:30-31 N '56. (MLRA 10:1)
(Basel--Thermostat)

SHEREMET'YEV, M., kand.tekhn.nauk; DAVYDOV, Yu., kand.tekhn.nauk

New model of an electric resistance thermometer. Khol.tekh. 33 no.4:26-27 O-D '56. (MIRA 12:1)
(Thermometers) (Air conditioning)

DAVYDOV, Yu.S., kand.tekhn.nauk

New automatic devices for conditioners designed by the All-Union Scientific Research Institute of Sanitary Engineering Equipment. Sbor.trud.NIIST no.2:88-97 '59. (MIRA 13:4)
(Automatic control)
(Air conditioning--Equipment and supplies)

24(8)

SOV/119-59-1o-18/19

AUTHORS: Agafonova, L. I., Engineer, Davydov, Yu. S., Candidate of Technical Sciences

TITLE: The Results of the Laboratory- and Working Tests of the Dilatometric Temperature Feeler of the Type DTDP

PERIODICAL: Priborostroyeniye, 1959, Nr 1o, pp 31 - 32 (USSR)

ABSTRACT: The dilatometric pneumatic temperature feeler of the type DTDP, modernized at the Khar'kovskiy zavod "Teploavtomat" (Khar'kov factory "Teploavtomat"), was investigated at the laboratory for the automation of sanitary-technical devices of the Nauchno-issledovatel'skiy institut sanitarnoy tekhniki Akademii stroitel'stva i arkhitektury SSSR (Scientific Research Institute of Sanitary Technics of the Academy for Building and Architecture USSR), and the paper by V. M. Gorokhov and G. Ye. Kovalevskiy in the present issue is referred to at the beginning. The error of the instrument was first investigated, and it appeared that the measuring error had a positive value at the beginning of the dial, but a negative value at its end. This is shown graphically on the diagram in figure 1. The maximum error, however, does

Card 1/2

not exceed $\pm$ 0.45°C, and thus remains within the limits permissible technically. The temperature difference, within which a change of pressure from a minimum to a maximum occurs at the exit, was investigated in the course of the further investigation. Since this temperature difference in such instruments depends on the degree of throttling in the valve, the minimum temperature difference, at which a pressure change from the minimum (0$\pm$0.1 kg/cm^2) to the maximum (1$\pm$0.1 kg/cm^2) can be obtained at the exit, was determined. It can be seen from figure 2 that this temperature difference amounts to 1.3 - 1.4°C. An important feature of these instruments is their inertness, and two curves are shown on the diagram in figure 3, from which it results that the inertness of the instrument is increased by a housing. It is stated in conclusion that the feeler investigated here is very suitable for air-conditioning systems, owing to the characteristics determined. There are 3 figures.

Card 2/2

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9, 4300 (1141, 1159, 1139)
17.1200

S/066/61/000/003/002/002
D051/D112

AUTHOR: Davydov, Yu.S., Candidate of Technical Sciences
Mikhaylov, I.T., Engineer

TITLE: Semiconductor proportional temperature regulator PTR-P

PERIODICAL: Kholodil'naya tekhnika, no. 3, 1961, 7-10

TEXT: The authors describe a new proportional semiconductor thermoregulator of the type ПТР-П (PTR-P) (fig. 1), which was developed by the NII Santekhniki and the Orlovskiy SKB Pribor. The device, which contains a thermistor as a sensitive element, was recently tested and passed for serial production to the Orlovskiy zavod priborov (Orel Instrument Plant). The development of a new thermoregulator had been considered as necessary, because previous attempts to improve the existing types, e.g. ТПК (TPK) and ТПД (TPD) of the L'vov plant "Teplokontrol'", were not successful. The new device achieves proportional regulation of liquid and gas temperature without employing the balance relay system. It is highly sensitive, shows only inconsiderable inertness, and can be used also for two- and three-position and even astatic temperature regulation, the latter being possible in combination with a pulsed chopper. The component parts and the operation system of the new

Card 1/2

6.

Semiconductor proportional ...

regulator are given in fig. 2. The device consists of the following basic elements: an a.c. measuring bridge, two cascades for preliminary amplification, an emitting repeater, a phase-sensitive cascade, and a power unit. The measuring bridge is intended for the transformation of the fluctuations of the temperature being controlled into electrical signals. It consists of constant (R_6, R_{13}, R_{14}) and variable (R_7, R_g) resistors and a thermistor (R_8), the latter being a thermoresistor of the type MMT-1 (MMT-1) or MMT-4 (MMT-4), for air media or non-aggressive liquid media; respectively. The bridge also includes a feedback rheostat (terminals C, K, B). Resistor R_7 performs the functions of a temperature controller, and R_g permits establishing the necessary residual irregularity. For amplifying the signal picked up from the bridge an amplifier with semiconductor triodes is used. The signal is first amplified by the two cascades of the preliminary amplifier, the triodes ΠT_1 and ΠT_2. The resistors R_3 and R_{10} are resistors of the collector load. The capacitors C_2, C_3, and C_5 serve for d.c. separation of the cascades and the bridge. Through the capacitors C_1 and C_4 the negative feedback which stabilizes the work of the amplifier is effected. The resistors R_1 and R_2, R_5 and R_9 operate in pairs as dividers; the voltage picked up from them guarantees the required operation conditions of the amplifier cascades. The re-

Card 2/2 6

Semiconductor proportional ...

sistors R_4 and R_{11} effect the negative feedback which guarantees the temperature stabilization. From the output of the preliminary amplifier the signal is transmitted to the input of the emitting repeater, which matches the output resistance of the preliminarily amplifying cascade with the input resistance of the phase-sensitive cascade and amplifies the power of the signal. The emitting repeater consists of the triode ΠT_3, the load resistor R_{15}, and the regime resistor (Rezhimnoye Soprotivleniye) R_{12}. The signal further passes to the input of the phase-sensitive cascade which permits discriminating the direction of the unbalance of the bridge and by amplifying the received signal actuates this or that relay in accordance with the phase of the signal. The phase-sensitive cascade consists of the triodes ΠT_4 and ΠT_5 and the regime resistors R_{16}, R_{17}, and R_{20}, R_{21}. The capacitors C_6 and C_7 serve for d.c. separation of the cascades. The triode collectors include a relay operating upon opening and closing of the triodes. The capacitors C_8 and C_9 shunt the relay windings and smooth the current pulses in them. The resistors R_{19} and R_{22} guarantee the steady operation of the relays P_1 and P_2; at the first pulse they are disconnected by the contacts IP_1 and IP_2. The triodes ΠT_4 and ΠT_5 are fed with negative half-waves of sinusoidal voltage obtained from

Card 3/9 6

Semiconductor proportional ...

the diodes Д1, and Д2. The power unit of the device consists of a transformer, the rectifying diodes Д3-Д6, and a smoothing filter composed of the capacitors C_{10}, C_{11} and the resistor R_{18}. The voltage is controlled by a tube Л. In order to achieve proportional regulation, the PTR-P device is equipped with three terminals which are connected with a feedback rheostat. The device will work as a two-position or three-position astatic temperature regulator when the three terminals are connected by a length of wire. The regulator has scales of temperature and irregularity adjustment. The temperature at which the shaft of the executive mechanism with the connected contact-blade of the feedback rheochord is in the center position corresponds to the given temperature of the adjustment scale. The device was tested at the laboratory of automation of sanitary-engineering equipment of the NII Santekhniki. The following characteristics for the device (adjustment range from -10 to +16°C) could be obtained:

Adjustable value of irregularity, °C:

minimum	1.2
maximum	5.5
Displacement of the adjustment point during forward and return motion (hysteresis), °C	0.2

Card 4/8 6

S/066/61/000/003/002/002
D051/D112

Semiconductor proportional ...

Adjustment error at the extreme points and one of the medium points, °C 0.2
Zone of insensitivity, °C 0.02 (60 operation degrees at a minimum value of irregularity).

The positive testing results permit serial production of the device in several modifications (table 2). The breaking capacity of the output contacts is the same for all modifications: at 220 V a.c. it is equal to 500 V-amp, at 220 V d.c. - 50 V-amp. The device is fed by alternating current of a voltage of 127/220 V and a frequency of 50 cycles. The power consumption is 3 ± 5 W. The error of the program installation is ± 0.5°. The production includes devices of the cubicle and the remote control type. The normal distance between the pick-ups and the device is 3 m, but it can be increased. Attention has to be paid to the circumstance that every 5 ohm resistance of the line involves an additional adjustment error of about 0.1°. The device is installed in a casing and weighs no more than 2.5 kg. There are 2 figures, 2 tables, and 2 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy institut sanitarnoy tekhniki Akademii stroitel'stva i arkhitektury SSSR (Scientific Research Institute of Sanitary Engineering at the Academy of Construc-

Semiconductor proportional ...

tion and Architecture USSR) (Yu.S. Davydov)
SKB Pribor Orlovskogo sovnarkhoza (SKB Pribor of the Orel Sovnarkhoz) (I.T. Mikhaylov)

Card 6/9 6

ADAMOVICH, P.V.; BATURIN, V.V.; VAKHVAKHOV, G.G.; VAYNGAUZ, L.G.; VILENSKIY, Ye.Ya.; GAMBURG, P.Yu.; DAVYDOV, Yu.S.; KARPIS, Ye.Ye.; KUZNETSOVA. Z.I.; KOP'YEV, S.F.; LIVCHAK, I.F.; LOBACHEV, P.V.; LEV, G.M.; NOTKIN, Ye.M.; PIRUMOV, A.I.; POLIKARPOV, V.F.; PROTOPOPOV, A.P.; REPIN, N.N.; SLADKOV, S.P.; TALIYEV, V.N.; TROITSKAYA, F.B.; FEDOROV, M.N.; SHEVELEV, F.A.; SHKABEL'NIKOVA, L.P.; SHCHUTSKIY, A.I.; SMIRNOV, L.I., inzh., nauchnyy red.; SMIRNOVA, A.P., red. izd-va; MOCHALINA, Z.S., tekhn. red.; RODINOVA, V.R., tekhn. red.

[Present level and prospects for the development of sanitary engineering and the production of sanitary engineering equipment] Sovremennyi uroven' i perspektivy razvitiia sanitarnoi tekhniki i proizvodstva sanitarno-tekhnicheskogo oborudovaniia. Moskva, Gosstroiizdat, 1962. 283 p. (MIRA 15:8)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut sanitarnoy tekhniki.

(SANITARY ENGINEERING)

DAVYDOV, Yu.S., kand. tekhn. nauk; AGAFONOVA, L.I., inzh.; ADAMOVICH, P.V., inzh., red.

[New modernized devices and methods of automating sanitary engineering installations] Novye modernizirovannye pribory i sredstva avtomatizatsii sanitarno-tekhnicheskikh ustroistv. Moskva, Biuro proektno-konstruktorskoe, i tekhnicheskoi pomoshchi, 1962. 39 p. (MIRA 16:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut sanitarnoy tekhniki.
(Sanitary engineering) (Automatic control)

KHALAMEYZER, M.B.; DAVYDOV, Yu.S., kand. tekhn. nauk, retsenzent; KURATTSEV, L.Ye., inzh., red.izd-va; ĖL'KIND, V.D., tekhn. red.

[Fundamentals of the automatic control of airconditioning systems] Osnovy avtomaticheskogo regulirovaniia ustanovok iskusstvennogo klimata. Moskva, Mashgiz, 1963. 215 p. (MIRA 16:10)

(Air conditioning--Equipment and supplies)
(Automatic control)

KIRILLOV, A.A., kand.tekhn.nauk, dotsent; SINYAKOV, V.K., kand.tekhn. nauk; DAVYDOV, Yu.S., inzh.

Steepness of slopes of underwater trenches. Izv. TSKHA no.3:195-199 '63. (MIRA 16:9)
(Hydraulic structures)

DAVYDOV, Yu.S.; MEZHNEV, N.I.

Calculations for the stability of underwater pipelines. Stroi. truboprov. 8 no.6:31-34 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov.
(Underwater pipelines—Design and construction)

DAVYDOV, Yu.S., kand. tekhn. nauk

Use of PTR-P temperature regulator for the control of air moisture. Khol. tekh. 40 no.4:50-51 Jl-Ag '63. (MIRA 16:8)

1. Nauchno-issledovatel'skiy institut sanitarnoy tekhniki Akademii stroitel'stva i arkhitektury SSSR.
(Temperature regulators)
(Air conditioning—Equipment and supplies)

L 20889-66 EWT(1)/EWT(m)/ETC(f)/EWG(m)/FCC/ DS/GW

ACC NR: AP6002558 (N) SOURCE CODE: UR/0286/65/000/023/0056/0056

AUTHORS: Osipova, N. Ye.; Osmolovskaya, T. N.; Kuznetsov, O. A.; Grafov, A. Ya.; Davydov, Yu. S.

ORG: none

TITLE: Method for fabricating moisture-sensitive elements for electrolytic air humidity detectors. Class 42, No. 176708

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 56

TOPIC TAGS: atmospheric humidity, electrolytic cell, moisture measurement

ABSTRACT: This Author Certificate presents a method for fabricating moisture-sensitive elements for electrolytic air humidity detectors, based on the utilization of the change of resistance of moisture sensitive films with humidity. To increase the sensitivity and stability while widening the measurement range, the sensitive element is in the form of an insulated shell with parallel metallic electrodes wound on it. The element is placed in a hot aqueous solution with a temperature of no less than 95C containing 1--4% sodium chloride, 38--68% of

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L 20889-66

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Rochelle salt, 0.1% propantriol, and 0.1% formic acid amide. The element is removed from the solution, and the electrodes are heated to a temperature of 75--80C by an ac current for 5--6 min.

SUB CODE: 04/ SUBM DATE: 22Jun64

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1. DAVYDOV, Yu. V.

2. USSR (600)

4. Geology and Geography.

7. Voyages Around the World on the Ship "Neva",(1803-1806), Yu. F. Lisyanskiy. (Moscow, Geography Press, 1947). Reviewed by Yu. V. Davydov, Sov. Kniga, No. 4, 1948.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.

1. DAVYDOV, Yu. V.

2. USSR (600)

4. Geology and Geography

7. Journeys Around the World, O. Ye. Kotsebu. (Moscow, Graphical Press, 1948). Reviewed by Yu. V. Davydov, Sov. Kniga, No. 10, 1948.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.

DAVYDOV, YU.

Sea and land travels. Moskva, Geografgiz., 1949.

DAVYDOV, Yu.

"Russian seamen -explorers of seas and oceans." N.N.Zubov. Reviewed by IU.Davydov. Geog. v shkole 18 no.3:77-78 My-Je '55. (MLRA 8:9)
(Zubov, Nikolai Nikolaevich) (Voyages and travels)

DAVYDOV, Yuriy Vladimirovich; VAZHENIN, K.A., redaktor; GLEYKH, D.A., tekhnicheskiy redaktor.

[Travels on land and sea] V moriakh i stranstviiakh. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 207 p. (MLRA 9:5)
(Matiushkin, Fedor Fedorovich)

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S/111/60/000/001/001/005
B012/B077

6.7500 (3203, 1140, 1524)

AUTHORS: Klykov, S. I., Candidate of Technical Sciences,
Bakhtov, I. S., Engineer, Davydov, Yu. V., Engineer

TITLE: New Transit Phototelegraphic Equipment

PERIODICAL: Vestnik svyazi, 1960, No. 1 (238), pp. 3-5

TEXT: The presently used system of optical retransmission of photo telegrams shows some basic disadvantages which are pointed out in this article. An enterprise of the electrotechnical industry and the TsNIIS developed a new transit photographic instrument during the last three years. In the beginning of 1959, models of this system were tested and judged favorably by the komissiya Ministerstva svyazi SSSR (Commission of the Ministry of Communications). This equipment consists of special instruments for magnetic recording, control receivers, and commutating equipment for phototelegraphic connections. The magnetic recording instrument represents the main part which records the phototelegraphic signals in the transit point on a standard magnetic tape; from this tape, the signals are transmitted from one point and received at another with an equal equipment.

Card 1/4

87323

New Transit Phototelegraphic Equipment S/111/60/000/001/001/005
B012/B077

The retransmission of such phototelegrams is ensured without decreasing the contrast and sharpness by applying single-line magnetic recording of modulated phototelegraphic signals by such an instrument which is free of amplitude frequency distortions. Comparing the half-tone characteristics as shown in Fig. 1 for the whole transmitting channel at the optic (curve 1) and the magnetic (curve 2) retransmission shows the great advantages of the latter. The experience shows that it is possible to retransmit each phototelegram five times magnetically. Another advantage of this method is the shorter time necessary to pass a certain point, and the possibility to re-use the magnetic tape a few hundred times. The commutating equipment is considered as another important element. The scheme and the construction of the new equipment, and its operation, are described. Tests of some models in operation established the following: 1) Instruments for magnetic recording with a 300-4000 cycles' frequency range and a dynamic range of up to 40 db do not cause any substantial half-tone distortion if used through several magnetic retransmissions (up to five times), and hardly decrease the resolving power of the phototelegraphic instrument. 2) The mechanical shift caused by this instrument after five retransmissions is no more than $\pm$0.1 mm, which is quite

Card 2/4

acceptable. 3) The non-uniform sensitivity of magnetic tapes diminishes the quality of transmitted half-tone phototelegrams if retransmitted four times and more but does not cause any significant distortion of dash phototelegrams if retransmitted 1-3 times. 4) The new equipment makes it possible to improve the quality of transmission and the output factor with a good stability. The unnecessary universality and complicity of the circuits, the complex construction of the elements, and the insufficient utilization of connection channels at double transmission are considered to be of disadvantage. The editors of the periodical point out that it is planned to discuss the new system at the meeting of the Tekhnicheskiy sovet Ministerstva svyazi SSSR (Technical Council of the Ministry of Communications USSR). There are 2 figures.

Legend to Fig. 1: 1) $D_{reception}$, 2) $D_{transmission}$

87323

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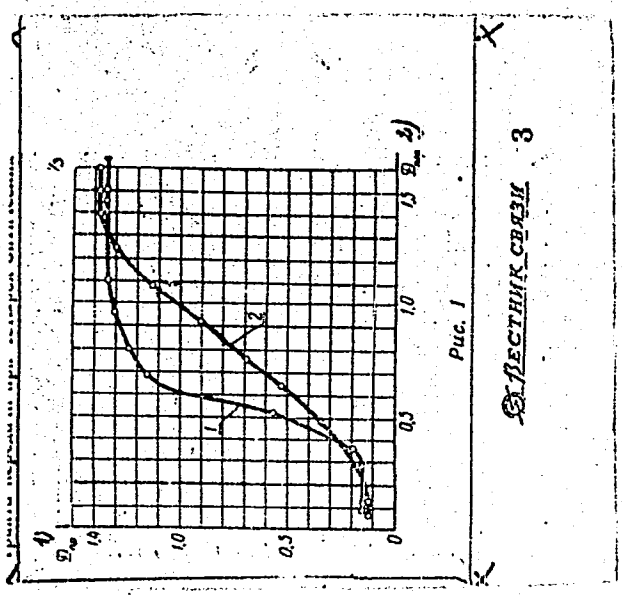

Вестник связи 3

Рис. 1

Card 4/4

KLYKOV, S.I., kand.tekhn.nauk; BAKHTOV, I.S., inzh.; DAVYDOV, Yu.V., inzh.

New phototelegraph equipment. Vest.sviazi 20 no.1:3-5 Ja '60.
(MIRA 13:5)

(Phototelegraphy)

DAVYDOV, Z.

Sinope. Vokrug sveta no.3:46-53 Mr '54. (MLRA 7:2)

DAVYDOV, Z.

Eight torpedoes - eight hits. Voen.znan. 37 no.6:25-26 Je '61.
(MIRA 14:6)
(Submarine boats)

DAVYDOV, Z.

Resourcefulness and skill. Kryl. rod. 16 no.1:25 Ja '65.
(MIRA 18:3)

DAVYDOVA, A.

Based on progressive science. Nauka i zhizn' 23 no.8:25-30 Ag '56.
(Food--Analysis) (MIRA 9:9)

AUTHOR: Davydova, A. SOV/25-58-12-24/40

TITLE: Vineyards of Sin'tszyana (Vinogradniki Sin'ts-zyna)

PERIODICAL: Nauka i zhizn', 1958, Nr 12, p 65 and p 4 of center-fold (USSR)

ABSTRACT: In the province of Sin'tszyan', fruit growing has expanded considerably during the Chinese communist regime. Slopes of mountains and sandy deserts now produce abundant crops with the aid of irrigation. Chinese fruit growers are successfully applying the theories of Michurin. There is 1 picture.

Card 1/1

DAVYDOVA, A.

At a seismic station. Znan i zhizn' 22 no.9:44 S'55. (MIRA 8:12)
(Seismology)

DAVYDOVA, A.A.

BERLIN, I.I.; POMEL'TSOV, K.V.; FAYNSHTEYN, R.B.; OSTROVSKAYA, M.D.; DAVYDOVA, A.A.

Dynamics of minor forms of pulmonary tuberculosis; data of an over-all survey in the city Pavlovskiy Posad. Probl. tub. no.3: 31-38 My-Je '54. (MIRA 7:11)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. prof. F.V.Shebanov) i Pavlovskogo-Posadskogo tuberkuleznogo dispansera (zav. M.A.Polkanov)
(TUBERCULOSIS, PULMONARY, statistics, analysis of continous survey)

DAVYDOVA, A. A.

"The Use of Polyethylene Terephthalate Film for Slot Insulation of Electrical Machines,"

report presented at a Conference on New Electrical Insulating Materials and Technological Processes, Leningrad, Dec 1957