[redacted], O.V.

Method for correcting error bursts. Vop. peredach. inform. no.15: 61-70 '63
(MIRA 17:8)

ACCESSION NR: AT4008645 S/2945/63/000/015/0061/0070

AUTHOR: Popov, O. V.

TITLE: A method for burst error correction

SOURCE: AN SSSR. Institut problem peredachi informatsii. Problemy* peredachi informatsii, no. 15, 1963. Sistemy* raspredeleniya informatsii. Opoznaniye obrazov, 61-70

TOPIC TAGS: burst error correction method, information transmission, error correcting code, multiple burst error correction, burst error location, multichannel system, single burst error correction, correcting code, burst error correction, correcting control block, multiple burst error detection

ABSTRACT: A code is described which takes into account the specific nature of the distribution of multiple error bursts in information channels that are subject to correlated noise. The code permits

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ACCESSION NR: AT4008645

correction of arbitrary multiple bursts situated in different subblocks, if their length does not exceed the probable upper bound, and if they occupy in each subblock different positions for an arbitrary known sequence of these positions. Although the redundance of this code exceeds the minimum for the multichannel system, it is smaller than the redundance which would be required if any other known code were to be used. The code can be used also to correct single errors and to detect multiple error bursts with retention of part of the combination, and also to correct and detect single error bursts. "The author thanks Corresponding member AN SSSR A. A. Kharkevich and Professor E. L. Blokh for interest in the work, and also Candidate of Technical Sciences L. F. Borodin for many valuable hints." Orig. art. has: 2 figures, 5 formulas, and 1 table.

ASSOCIATION: Institut problem peredachi informatsii AN SSSR (Institute of Information Transmission Problems, AN SSSR)

Card 2/2

BLOKH, E.L.; POPOV, O.V.

Correction of separate erasure packs using block codes. Probl. pered. inform. no.14:101-112 '63. (MIRA 16:12)

USSR/Meteorology - Evaporation From Soil Jul 52

"Conference on Problems of a Procedure for Observing Evaporation From Soil," O. V. Popov, Leningrad GGI (State Hydrol Inst)

"Meteorol i Gidrol" No 7, pp 51-53

A conference was held 18-20 Mar 52 at the GGI with participation of: Inst of Hydrol and Hydroengineering, Acad Sci Ukrainian SSR; Agrophys Inst and All-Union Inst of Plant Studies; and other local organizations. O. V. Popov (GGI) reported on "Experimental Work of State Hydrological Institute

230T85

POPOV, O. V.

230T85

In Study of Evaporation From Soil. It was concluded that the mechanism of int soil processes should be investigated and methods of weighing, thermal balance, and diffusion should be applied to the problem.

POPOV, O.V.

Methods for studying percolation of rain water in soil and subsoil. (MLRA 10:1)
Trudy GGI no.54:92-118 '56.
(Soil percolation)

POPOV, O.V.

Use of the hydraulic soil surface evaporimeter in the zone of insufficient moisture. Trudy GGI no.57:125-146 '56. (MLRA 10:6)
(Atmometer) (Soil moisture)

POPOV, O.V.

Study of underground waters in hydrological research. Trudy GGI no.63: 5-27 '58. (MIRA 12:3)
(Water underground)

BORSUK, O.N., kand.geogr.nauk; POPOV, O.V., starshiy nauchnyy sotrudnik; URYVAYEV, V.A., otv. redaktor; ZUDELIN, B.I., prof., doktor geol.-mineral.nauk, red.toma; GROSMAN, R.B., red.; BRAYNINA, M.I., tekhn.red.

[Transactions of the Third All-Union Hydrological Congress, Leningrad, 1957] Trudy III Vsesoyuznogo gidrologicheskogo s"yezda, Leningrad, 1957. Leningrad, Gidrometeor.izd-vo. Vol.9. [Section of Underground Waters and Problems in Underground Feeding of Rivers] Sektsiia podzemnykh vod i problem podzemnogo pitaniia rek. 1959. 358 p. (MIRA 12:11)

1. Vsesoyuznyy gidrologicheskiy s"yezd. 3d, Leningrad, 1957. (Water, Underground--Congresses)

POPOV, O.V.

Methods of studying and calculating subsurface flow into rivers.
Trudy GGI no.11:5-66 '64. (MIRA 17:11)

SOURCE CODE: UR/0271/66/000/009/A066/A066

ACC NR: AR6035364

AUTHOR: Sabinin, Yu. A.; Mikolayev, P. V.; Popov, O. V.; Loparev, R. N.; Karabash, Ye. D.

TITLE: Photoelectric servomechanism systems for automatic tracking

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika, Abs. 9A460

REF SOURCE: Sb. Avtomatizir. elektroprivod. proizv. mekhanizmov. T. 1. M.-L., 1965, 194-200

TOPIC TAGS: servomechanism system, star tracker, photoelectric tracking, tracking control, ~~astrophysics instrument~~, light modulator, astronomic telescope, tracking telescope, photomultiplier, FEU-64 photomultiplier

ABSTRACT: The authors present the operating principle and the characteristics of a light-flux modulator for a modern astrotelescope. It is noted that the use of a light-flux modulator and a photomultiplier of the FEU-64 type ensures stable tracking of stars of ninth - tenth magnitude. In order to ensure constancy of the error signal for identical displacements from the optical exes of stars of different magnitude, use is made of the so-called derivative control of the system. In this case the system maintains a constant average photomultiplier current independently of the brightness of the star. The functional diagram of the system of photoelectric tracking by the telescope is considered, and the possibility of its analysis by method of mathematical simulation is discussed. It is indicated that the developed tracking systems are being introduced in the observatories of AN SSSR, thus greatly facilitating the labor

UDC: 62-5: 629.13: 621.396.988

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ACC NR: AR6035364

of the astronomers and raising the quality and accuracy of the observations. 3 illustrations. V. M. [Translation of abstract]

SUB CODE: 09, 03

Card 2/2

L 5272-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AP5026745 SOURCE CODE: UR/0286/65/000/017/0021/0022

INVENTOR: Popov, O. V.

ORG: none

TITLE: A method for correcting repeated groups of errors. Class 21, No. 174207

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 21-22

TOPIC TAGS: error correction, error correcting code

ABSTRACT: This Author's Certificate introduces: 1. A method for correcting repeated groups of errors by using linear block codes with a double series of verification signals. The reliability of information transmission is improved by checking the error detection in individual sections and erasing those sections in which errors are detected by using the first series of verification signals. The erased sections are restored by using the second series of these signals modulo the code base. 2. A means for putting this method into operation in which the value of each information element is determined from several verification relationships using the second series of verification signals. These values are then used as a basis for finding and correcting the errors which were not detected by the first series of verification signals.

UDC: 621.394.147

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nw

Card 2/2

L 6372-66

ACC NR: AP5026745

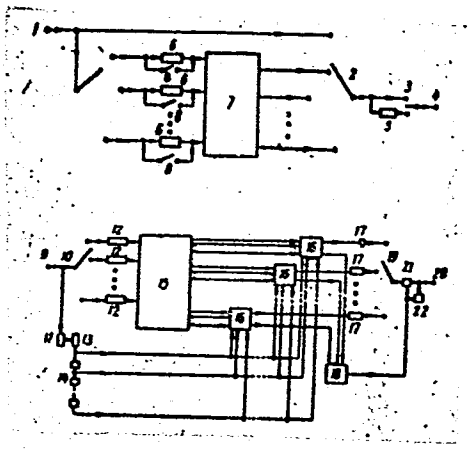

Fig. 1. 1--input terminal; 2--distributor; 3--switch; 4--output terminal; 5--verification register; 6--memory unit; 7--adders; 8--switches; 9--input terminal; 10--distributor; 11--register; 12--memory unit; 13--analyzer; 14--register; 15--adders; 16--computer; 17--memory unit; 18--error recorder; 19--distributor; 20--output terminal; 21--valve; 22--oscillator

SUB CODE: DP/ SUBM DATE: 01Feb63/ ORIG REF: 000/ OTH REF: 000

nw

Card 2/2

POPOV, O.V.

Choice of an effective method for regulating the angular velocity of a motor in systems with transverse-field amplidynes. Sbor. rab. po vop. elektromekh. no.9:114-131 '63. (MIRA 17:2)

POPOV, O.V.

Scientific conference dedicated to the problem of recovery from radiation lesions. Med. rad. 7 no.11: 92-94 N'62. (MIRA 16:9)
(RADIATION SICKNESS)

LAVROV, A.P.; ZEKTSER, I.S.; POPOV, O.V.

Experience in studying the conditions of the formation of natural resources of underground waters in the Western Dvina (Daugava) basin. Biul.MOIP.Otd.geol.38no.2:158 Mr-Ap '63. (MIRA 16:5)

(Western Dvina Valley--Water, Underground)

SABININ, Yuriy Alekseyevich, kand. tekhn. nauk, dotsent; POPOV, Oleg Vladimirovich, assistent

An a.c. servo drive for closing a navigation lock. Izv. vys. ucheb. zav.; elektromekh. 6 no.9:1098-1107 '63. (MIRA 16:12)

1. Institut elektromekhaniki AN SSSR.

ZABOROVSKIY, Sergey Aleksandrovich, assistent; KULIKOV, Sergey Nikolayevich, assistent; POPOV, Oleg Vladimirovich, mladshiy nauchnyy sotrudnik; SABININ, Yuriy Alekseyevich

Automated electric drive of a coal loader. Izv. vys. ucheb. zav.; elektromekh. 5 no.7:810-816 '62. (MIRA 15:10)

1. Leningradskiy politekhnicheskiy institut (for Zaborovskiy, Kulikov).

(Coal-handling machinery—Electric driving)

POPOV, O.V.; KOROTKOV, S.V.

Selection of optimum parameters of automatically controlled electric drive systems using amplidynes as generators. Sbor. rab.po vop.elektromekh. no.7:101-115 '62. (MIRA 16:1)
(Electric driving) (Automatic control)

POPOV, O.V.; KOROTKOV, S.V.

Study of transient processes in an automated electric drive using electronic analog computers. Sbor.rab.po vop.elektromekh. no.7:115-130 '62. (MIRA 16:1)
(Electric driving) (Automatic control)

POPOV, O.V.

A combinational method for controlling an automated electric drive using Hall transducers. Sbor.rab.po vop.elektromekh. no.7:85-101 '62. (MIRA 16:1)

(Electric driving) (Transistors)

SABININ, Yu.A.; POPOV, O.V.

Photoelectric servosystems for program controlled machining of plane parts. Sbor.rab.po vop.elektromekh. no.7:210-227 '62. (MIRA 16:1)

(Machine tools—Numerical control) (Automatic control)

POPOV, O.V.

CAND MED SCI

Dessertation: "Cholesterin of the Blook and Spinal fluid in Cases of Purulent Cerebral Affection."

31 Oct 49

First Moscow Order of Lenin Medical Inst

SO Vecheryaya Moskva
Sum 71

AID Nr. 997-2 25 June

POPOV, O.V.

CONFERENCE ON PROBLEMS OF PATHOGENESIS, EXPERIMENTAL PROPHYLAXIS, AND TREATMENT OF RADIATION INJURY (USSR)

Popov, O. V. Meditsinskaya radiologiya, v. 8, no. 4, Apr 1963, 86-92.
S/241/63/008/004/006/006

A conference on the pathogenesis, experimental prophylaxis, and therapy of radiation sickness was held 13-16 November 1962. Reporting on the mechanism of changes in the functional state of the central nervous system, R. M. Lyubimova-Gerasimova demonstrated the interdependence between the blood flow rate in the brain and the reactivity of the vestibular and optic analyzers to photic and vestibular stimuli. Z. I. Zhulanova and Ye. F. Romantsev observed that irradiation induces formation of peroxide compounds in mice, with maxima occurring during the first 30 to 60 sec and on the 3rd day after exposure. The first maximum shows accumulation of the peroxide compounds in the spleen, the second maximum shows peroxides also in the kidneys and liver and a slight amount of peroxides in the brain and testes. Injection of cysteine, mercaptoethylamine, or mercaptopropylamine prior to exposure decreased the amount of peroxide compounds formed. Exposure to hypoxia for 5 to 20 min before exposure reduces the amount of peroxides formed. M. O. Raushenbakh discussed the basic causes of irradiation

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AID Nr. 997-2 25 June

CONFERENCE ON PROBLEMS (Cont.) S/241/63/008/004/006/006

hemorrhages, such as disturbances in blood clotting, thrombocytopenia, and changes in the vascular permeability and resistance. He noted that vascular permeability increases immediately after irradiation and at the height of radiation sickness and is related to changes occurring in the mucoprotein metabolism. V. G. Yakovlev's study of the chemical properties and action mechanism of radioprotectors was based on their reactions with metals utilized as biocatalysts. He found two probable courses of their action: 1) formation of insoluble complexes with metals (copper, iron, etc) and 2) combination with radiosensitive sulfur-containing groups of enzyme molecules. The relationship between the chemical structure and radioprotective properties of the aminothiol series was discussed by A. S. Mozzhukhin, F. Yu. Rachinskiy, N. M. Slavachevskaya, and L. I. Tank. They found that the greatest effect is exerted by sulfur-containing compounds which contain a sulfhydryl or a potential sulfhydryl group and an

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CONFERENCE ON PROBLEMS [Cont'd] S/241/63/008/004/006/006

amino group at a distance of 2 to 3 carbon atoms from each other. T. K. Dzharak'yan, L. B. Berlin, V. G. Vladimirov, D. A. Il'inskiy, and A. D. Smirnov showed that cystamine causes inhibition of mitosis in nonirradiated epithelium of the cornea and small intestine. Yu. P. Khussar demonstrated that the restoration of the impaired mitotic activity of cells in the thymus of rats begins 3 days after irradiation of the animals with a lethal dose and attains its maximum after 7 days, e.g., at the height of radiation sickness. In their report on the mechanism of the radioprotective action of amines of the indole series, P. G. Zherebchenko and N. N. Suvorov reported data obtained on the increase of the radioprotective effect by introducing substituents into the fifth position of the indole ring of the tryptamine molecule.

[SGM]

POPOV, O.V. (Leningrad)

Composite method for regulating a generator-motor system with a transverse-field amplidyne. Izv. AN SSSR. Otd. tekh. nauk Energ. i avtom. no.1:89-100 Ja-F '62. (MIRA 15:3)
(Rotating amplifiers) (Electric driving)

S/194/62/000/001/066/066
D201/D305

AUTHORS: Popov, O. V. and Zenevich, A. F.

TITLE: Change of the dynamic signal range in the SSB modulation

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1962, abstract 1-8-9 r (Sb. tr. Nauchno-tekhn. o-vo radiotekhn. i elektrosvyazi im. A. S. Popova, 1960, no. 1, 27-32)

TEXT: It is shown that the dynamic range (DR) of the signal (S), obtained as a result of a SSB modulation, may in some cases exceed considerably the DR of the immodulated signal. The increase of DR depends on the shape of the modulating signal. Signals exist at which, owing to the SSB modulation, their DR increases considerably as e.g. in the case of a rectangular S. Because of this the capacity of channels, handling the SSB modulated S should exceed that of the modulating S. This should be especially taken care of in case of transmission of nearly rectangular S. Amplitude limi-

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PHASE I BOOK EXPLOITATION SOV/5533

Akademiya nauk SSSR. Institut elektromekhaniki.

Spetsial'nyye voprosy avtomatizirovannogo elektroprivoda (Special Problems of the Automatic Electric Drive) Moscow, Izd-vo AN SSSR, 1961. 248 p. Errata slip inserted. 6,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut elektromekhaniki.

Eds. (Title page): D. A. Zavalishin, Corresponding Member, Academy of Sciences USSR, and V. V. Rudakov, Candidate of Technical Sciences; Ed. of Publishing House: N. V. Travin; Tech. Ed.: R. A. Arons.

PURPOSE: This book is intended for technical personnel engaged in designing or operating regulated and automated electric drives for machines and mechanisms. It may also be useful to students in advanced courses working on term and degree projects.

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Special Problems of (Cont.) SOV/5533

COVERAGE: The book discusses the principles of operation and the methods of computation of regulated drives with a-c and d-c motors. Special attention is paid to problems related to the frequency method of induction motor control, which the authors consider the most promising. Recommendations regarding the use of a-c commutator motors and induction motors with special winding and improved starting characteristics are made. A considerable part of the book is devoted to problems of design and calculation of the control circuits for automated d-c drives, and to methods of investigating dynamic characteristics of d-c drive systems by means of electronic and electrodynamic models. Recent developments in regulated d-c drives and modern methods of analyzing and synthesizing automated d-c systems, based on investigations carried out by the Institut elektromekhaniki AN SSSR (Institute of Electromechanics AS USSR), are discussed in detail. The book was written by the following persons: A. A. Dartau (Chs. II and III), D. A. Zavalishin (Introduction, sections 1, 4, 5, and 6 of Ch. I, and Ch. II); S. V. Korotkov (Ch. VI, sec. 3);

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Special Problems of (Cont.) SOV/5533

I. I. Laptev (sections 4 and 5 of Ch. V); O. V. Popov (Ch. IV; sections 2, 4, and 5 of Ch. V, and sec. 3 of Ch. VI,); V. A. Prozorov (sections 1, 2, and 3 of Ch. I.); V. V. Rudakov (Introduction, sec. 1 of Ch. V, sections 1 and 4 of Ch. VI); V. V. Semenov (sec. 3 of Ch. V); Ye. M. Smirnov (sec. 2 of Ch. VI); E. F. Stepura (sec. 3 of Ch. V); A. V. Fatcyev (Introduction). There are 69 references: 59 Soviet, 7 German, 2 English, and 1 French.

TABLE OF CONTENTS:

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ALEXANDER, Peter; AVRUNINA, G.A. [translator]; POPOV, O.V., red.

[Atomic energy and life] Iadernoe izluchenie i zhizn'. Moskva, Izd-vo Glav.uprav.po ispol'zovaniiu atomnoi energii, 1959. 254 p. Translated from the English. (MIRA 13:8)
(RADIOACTIVITY--PHYSIOLOGICAL EFFECT)

S/196/62/000/001/012/013
E194/E155

AUTHOR: Popov, O.V.

TITLE: Controlled drive systems with d.c. motors

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.1, 1962, 3, abstract 1K 14. (Spets. vopr. avtomatizir. elektroprivoda. M.-L., AN SSSR, 1961, 112-131)

TEXT: The article considers the operating principles of non-reversing and reversing circuits and gives the mechanical characteristics of an electric drive with controlled mercury-arc rectifiers under rectifier and invertor conditions. The mechanical characteristics are similar to those of the generator-dynamo system but are more flexible. On transition from rectifier to invertor conditions and back the motor running speed jumps by an amount which is proportional to twice the voltage drop in the arc of the controlled mercury-arc rectifier. A cross-connected circuit used for high power drives consists of two groups of controlled

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Controlled drive systems with d.c. ...

mercury-arc rectifiers, one rectifying and the other inverting. For drives of 30-50 kW, bridge-type reversing circuits are used; there is an equalising current which by-passes the load circuit and impairs the power characteristics of the equipment. An analysis is given of the relationship between the power factor and the system parameters. When controlling the speed of rotation, the power factor of the controlled mercury-arc rectifier diminishes in proportion to the change in speed. With a constant static torque the reactive power demand increases as the speed is reduced, and when it is half the initial speed the demand is 8% of the rated power. If the static torque is proportional to the speed or to its square, then on reducing the speed the reactive power first increases and later tends to zero. When the static torque is proportional to the speed, the reactive power is a maximum when the speed is 0.707 of the initial speed. When the static torque is proportional to the square of the speed, the maximum occurs when the speed is 0.817 of the initial speed. In low-power generator-motor systems the generators are high-speed amplidynes, and in high-power systems

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Controlled drive systems with d.c. ...

good dynamic properties are achieved by using an amplidyne as the generator exciter. When an amplidyne is used as the generator in a system without negative feedback, remanent magnetism imposes a comparatively small control range - say 1:5 - 1:20. In systems where the amplidyne is used as the generator exciter, the natural control range may reach 1:30. Equations are given for the mechanical characteristics of the generator-motor systems. The control range of motor running speeds may be extended by reducing the remanent magnetism of the amplidyne through firm negative feedback. The advantages of the generator-motor system are: wide range of control (up to 1:600); high speed stability because of the absence of negative feedback; low control power (5-10 W); and reduced loss on starting because of reduction in transient process time. Disadvantages are: high installed power (three times the motor power); low efficiency because of multiple energy-conversions; high inertia of field circuit (high inductance); and large number of rotating machines.

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Controlled drive systems with d.c. .. S/196/62/000/001/012/013
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Advantages of the ionic drive system are; high speed under transient conditions; high amplification factor; higher efficiency; lower capital cost (40-45% of cost of machine convertors); and lower operating costs. Disadvantages are; lower power-factor with extreme control and relative complexity of power regeneration during braking. In the generator-motor system the control range can be increased by the combined method of control, which takes account of the control magnitude and the disturbing influence. The main equations are given. Two drive circuits with amplidyne-motor are described which use strain gauges (to measure the static stress) and Hall pick-ups (to measure the electromagnetic torque of the d.c. machine).

[Abstractor's note; Complete translation.]

Card 4/4

POPOV, O.V. (Leningrad)

Semigraphical method for calculating the mechanical characteristics of automatic control systems with transverse field amplidynes. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.3: 148-158 My-Je '61. (MIRA 14:7)
(Automatic control) (Electric driving)
(Rotating amplifiers)

POPOV, Oleg Vladimirovich, assistent

Method of calculating systems of continuous control with transverse field amplydines. Izv. vys. ucheb. zav.; elektromekh. 3 no.10:98-108 '60. (MIRA 14:4)

1. Kafedra elektrifikatsii promyshlennykh predpriyatiy Leningradskogo politekhnicheskogo instituta.
(Automatic control) (Rotating amplifiers)

88171

S/144/60/000/010/008/010
E194/E355

9,2530
16,9500 (1024, 1031, 1132)

AUTHOR: Popov, O.V., Assistant

TITLE: Method of Designing a Continuous Control System with an Amplidyne

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No. 10, pp. 98 - 108

TEXT: Modern automatic-control systems often use an amplidyne as the control and amplifying element. Existing methods of designing the parameters and mechanical characteristics of electrical drives require a great deal of calculation and cannot determine the optimum static parameters of the system. The method of design presented below permits analytic calculation of the circuit parameters, optimum values of which may be determined. The mechanical characteristic of the motor is calculated by a semigraphical method which allows for nonlinearity of the no-load characteristics. The following assumptions are made for the purposes of calculation: the magnetic system of the generator is not saturated; there is no hysteresis loop and eddy currents are neglected; in the

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Method of Designing a Continuous Control System with an Amplidyne

machines and amplidyne the armature reaction is fully compensated; the magnetic flux of the motor is constant; and individual circuit components are of constant resistance. Electrical drives with short repetitive duty cycles require a rigid mechanical characteristic and minimum transient process time. The requirements are met by a circuit using an amplidyne with delayed feedback according to voltage and current. The circuit of Fig. 1 is accordingly taken as an example of the method of design. In calculating the circuit parameters the shape of the static mechanical characteristics is given as follows: the rated motor speed or ideal no-load speed; the short-circuit current; the armature current at the instant when current feedback ceases; and the armature current at the moment when voltage feedback ceases. The current in the control winding of the amplidyne is calculated from the rated speed of the motor, using Eq. (2), and hence the nominal amp-turns of

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the control winding are obtained. The field-forcing factor α is obtained in Eq. (3). The additional resistance in the control winding circuit which is supplied from the mains is next determined and the parameters of the current feedback delay circuit are worked out. The total resistance of the current circuit depends on the ratio between the cut-off current and the short-circuit current δ. Expressions are then found for the shunt resistance, the comparator e.m.f. in the current circuit and the current in the feedback circuit at short-circuit. It is assumed that germanium rectifiers are used in both feedback circuits for which the change in resistance is small over quite a wide range of change of current.

The parameters of the voltage feedback are then determined and γ is defined as the ratio of the mean comparator e.m.f. to the open-circuit e.m.f. Knowing the current in the voltage feedback circuit from Eq. (14) and the comparator e.m.f. from

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Eq. (12), a rectifier and a source of comparator e.m.f. are selected, both with appropriate internal resistance. The resistances must fulfil the conditions of expression (16) otherwise the required shape of mechanical characteristic of the motor cannot be obtained.
The optimum resistance of the feedback circuit is then determined from the voltage for various values of forcing coefficient of the amplidyne α ; the coefficient γ is taken as a constant for each curve of resistance as a function of α . For each value of resistance selected, the parameters of the source of e.m.f. are designed, beginning with the internal resistance and then selecting the rectifier with its resistance and finally the resistance of the other components. If γ ranges from 0.95 to 0.8 and α is variable, the optimum value of the resistance ranges only over 5 - 7%, which may be neglected in practice. Having settled the parameters of the circuit, the equation for the

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internal characteristic of the amplidyne for the second section may be determined with allowance for the influence of the two delayed feedbacks. Eq. (18) is derived for the control e.m.f. and Eq. (19) for the mechanical characteristic of the motor. From the analytical equation the static parameters of the automatic-control system may be determined over the working range and the complete mechanical characteristics of the electrical drive calculated by a semigraphical method. An expression is given for the amplification factor of the amplidyne allowing for feedback according to voltage. It is concluded that increasing the forcing factor α causes an inversely proportionate change in the amplification factor of the amplidyne. The value of the static speed drop of the motor over the working range is found and that part of it which is compensated by the action of voltage feedback is given by Eq. (21). This shows that the voltage feedback only partially compensates the ohmic

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voltage drop in the armature of the amplidyne and the shunt. The degree of compensation depends mainly on the value of the comparator e.m.f. γ. On the basis of the curves which are given it is concluded that if there are two delayed feedbacks according to voltage and current the forcing factor α should be 3.0 - 4.0 and the coefficient γ 0.9 - 0.8. Certain additional graphical constructions are required in constructing the mechanical characteristics of the drive. These are explained in some detail with reference to the curves of Fig. 5. It is explained how to construct the internal and external characteristics of the amplidyne and the mechanical characteristics of the motor. In conclusion, the recommendations about the parameters to select in the design are summarised.

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Method of Designing a Continuous Control System with an Amplidyne

There are 5 figures and 8 references: 7 Soviet and 1 non-Soviet.

ASSOCIATION: Kafedra elektrifikatsii promyshlennykh predpriyatiy Leningradskogo politekhnicheskogo instituta (Department of Electrification of Industrial Establishments, Leningrad Polytechnical Institute)

SUBMITTED: August 3, 1959

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POPOV, O.V. (Leningrad)

Selection of parameters for automatic control circuits with transverse field amplidynes. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.5: 77-85 S-O '59. (MIRA 13:1)
(Automatic control) (Rotating amplifiers)

L 4258-66 EWT(1)/T/EWA(h) IJP(c) AT/GS/GW
ACC NR: AT5021837 UR/0000/65/000/000/0090/0100

AUTHOR: Karabash, Ye. D.; Loparev, R. N.; Nikolayev, P. V.; Popov, O. V.; Sabinin, Yu. A.

TITLE: Photoelectric slave systems for telescope control made of semiconductor and magnetic components

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod; sledyashchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 90-100.

TOPIC TAGS: servosystem, telescope, telescopic equipment, semiconductor device, magnetic circuit

ABSTRACT: After a brief description of photoelectric automatic telescope guidance systems which modulate the light flux by means of half-disk modulators, the authors present the functional diagram, the circuit diagram, and detailed description of the operation of an experimental photoelectric slave system made of semiconductors and magnetic components and used for telescope control. The selection of optimal operating parameters are discussed, the transient processes requiring a correcting loop for stabilization are analyzed, and theoretical estimates of the accuracy of the system are given. The fast determination of the correcting circuit parameters needed for a stable operation of the system is accomplished by electronic modeling. Orig. art. has: 37 formulas and 4 figures.

Card 1/2

L 4258-66

ACC NR: AT 5021837

ASSOCIATION: None

SUBMITTED: 12Apr65 ENCL: 00 SUB CODE: AA, IE

NO REF SOV: 004 OTHER: 000

Card 2/2 DP

POPOV, O.V., starshiy nauchnyy sotrudnik

General regularities of the formation of base flow into rivers in the U.S.S.R. Trudy GGI no.122:5-31 '65. (MIRA 18:9)

POPOV, O.V.

Review of IU.G. Grigor'ev's "Material on reactions of the human central nervous system to ionizing radiation." Med.rad. 4 no.11: 87-89 N '59. (MIRA 13:2)
(RADIATION--PHYSIOLOGICAL EFFECT) (NERVOUS SYSTEM)
(GRIGOR'EV, IU.G.)

18.7100

77166
SOV/129-60-1-14/22

AUTHORS: Popov, O. V. (Candidate of Technical Sciences), Moskalev, M. A. (Engineer)

TITLE: Cooling During Hardening Sheet Metal Parts From Aluminum Alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1900, Nr 1, pp 45-47 (USSR)

ABSTRACT: Three types of cooling were investigated: (1) cooling during transfer through the air; (2) cooling by quenching in water; (3) cooling in the zinc die. The nature of cooling during transfer through the air primarily depends on the time and manner of carrying work pieces, as well as on the size of work pieces and the thermophysical properties of the hardened metal. The nature of cooling during transfer through air was studied theoretically and experimentally. As a result of an approximation by replacing the theoretical cooling curves with straight-line curves, an equation for determination at any time the temperature of

Card 1/5

samples from Duralumin D16 and bronze B95 (composition not given) was derived:

$$t = t_o - 7.05 \frac{\tau}{s}$$

where t_o is starting temperature of the sample (500° C for 016; 470° C for B95); τ is time of transfer through air, in seconds; s is thickness of material, in mm. As seen from Fig. 2, the theoretical and experimental curves of cooling almost coincide. The high-speed transfer of sheet components through the air in a vertical position is more effective than that in horizontal position, since heat losses in the former are lower. By quenching parts made of sheet metal (B95 and D16), it is suggested that the permissible time of transfer through the air be determined for parts of various thicknesses, according to the temperature of the beginning of quenching. The speed of cooling in water and in the zinc die was also determined by both the theoretical and experimental methods. However, the theoretical

Cooling During Hardening Sheet Metal Parts From Aluminum Alloys

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SOV/129-60-1-14/22

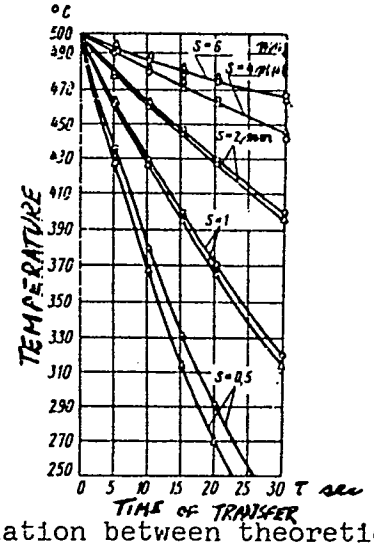


Fig. 2. Correlation between theoretical and experimental curves of cooling by transfer through the air of 360 x 60 mm work pieces (speed of transfer in a vertical position, 2m/sec). Round dots indicate experimental curves; triangular, calculated curves.

Card 3/5

calculations are very complicated. Therefore, an experimental method with oscillograph recording was preferred. The obtained results show that the speed of cooling in water in all cases is higher than that in the zinc die, although it is possible to obtain cooling rates approaching those of water cooling. There are 4 figures; and 1 table.

ASSOCIATION: Moscow Aviation Technological Institute (MATI)

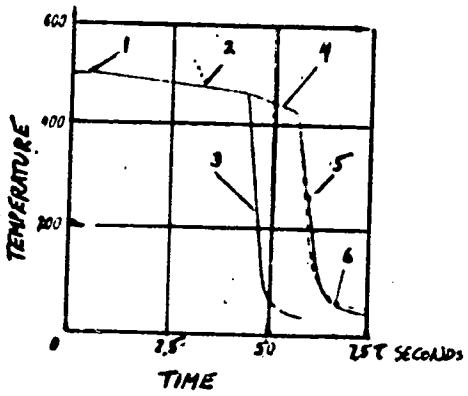


Fig. 4. Typical cooling oscillograms of work pieces from alloy D16, 2 mm thick, in different hardening media. (1) Temperature of work pieces in heat-treating furnace; (2) cooling during transportation through air; (3) cooling in water; (4) cooling in a half-open die; (5) cooling in a closed die; (6) theoretical curve of cooling in the die.

Card 5/5

Popov, O.V.

BABKOV, Valeriy Fedorovich, prof., doktor tekhn.nauk; ZAMAKHAYEV, Mitrofan Semenovich, dotsent, kand.tekhn.nauk; POPOV, O.V., inzh., retsenzent; MOTYLEV, Yu.L., kand.tekhn.nauk, retsenzent; PUZAKOV, N.A., retsenzent; IVANOV, S.S., red.; MAL'KOVA, N.V., tekhn.red.

[Highways] Avtomobil'nye dorogi. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta. Pt.1. [Road design] Proektirovanie dorog. 1959. 559 p. (MIRA 13:2)

1. Prepodavateli Moskovskogo avtomobil'no-dorozhnogo instituta (for Babkov, Zamakhayev).
(Roads--Design)

POPOV, O.V.

PHASE I BOOK EXPLOITATION SOV/5200

Alexander, Peter

Yadernoye izlucheniye i zhizn'. Moscow, Atomizdat, 1959. 254 p. 6,800 copies printed.
Transl. of Atomic Radiation and Life.

Translator (Title page): G.A. Avrunina; Ed. (Title page): O.V. Popov, Candidate of Medical Sciences; Ed.: M.A. Saguro; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This book is intended for the general reader.

COVERAGE: The book is a translation from English of a work by Peter Alexander entitled "Atomic Radiation and Life" published by Penguin Books. The introduction to the Russian edition was written by O.V. Popov and points out that Alexander's work does not reflect the contributions of Soviet scientists whose findings in this field often contradict those of Western scientists. The work and experimental findings of M.I. Nemenov, A.V. Lebedinskiy, M.N. Livanov, P.D. Gorizontov, Yu.G. Grigor'yev, A.B. Tsypin, Yu.K. Kudritskiy, G.A. Nadson, G.S. Filippov, and B.L. Astaurov on the effect of radiation on the nervous system, and that of N.P. Dubinin, M.A. Arsen'yev, and G.G. Tinyakov on the reproductive system

Card 1/2

GORB, T.V. [Horb, T.V.], doktor sel'skokhoz.nauk; TERESHCHENKO, F.K., kand.biolog.nauk; BOGAYEVSKIY, O.T. [Bohaievs'kyi, O.T.], kand. veterin.nauk; POTYEMKIN, M.D. [Pot'omkin, M.D.], akademik; KNIGA, M.I. [Knyha, M.I.]; POPOV, O.Ya., kand.sel'skokhoz.nauk; KHMELIK, G.G. [Hmelyk, H.H.], kand.sel'skokhoz.nauk; SHRAM, I.P., kand.sel'skokhoz.nauk [deceased]; KOPIL, A.M., kand.sel'skokhoz. nauk; TSELYUTIN, V.K., kand.sel'skokhoz.nauk; BOZHKO, P.Yu., doktor sel'skokhoz.nauk; KROMIN, S.S., kand.sel'skokhoz.nauk; ZEMLYANSKIY, V.M. [Zemlians'kyi, V.M.], kand.sel'skokhoz.nauk; BORISENKO, A.M. [Borysenko, A.M.], kand.biolog.nauk; ZAKHARENKO, V.B., kand.biolog. nauk; SMIRNOV, I.V. [Smyrnov, I.V.], kand.biolog.nauk; KHRABUSTOVSKIY, I.F. [Khrabustovs'kyi, I.F.], kand.biolog.nauk; TORSTYANETSKAYA, M.N., [Trostianets'ka, M.N.], assistent; ALESHKO, P.I., inzh.; VASIL'YEV, Vasyl'iev, O.F., kand.tekhn.nauk; BUGAYENKO, I.I. [Buhaienko, I.I.], starshiy prepodavatel'; TRAKHTOMIROVA, O.O., kand.ekonom.nauk; BUTKO, S.D., kand.ekonom.nauk; TELESHIK, K.G. [Teleshyk, K.H.], doktor ekonom.nauk; YAROSHENKO, V.D., kand.ekonom.nauk; LISIY, I.Y. [Lysyi, I.I.], red.; YEROSHENKO, T.G. [Ieroshenko, T.H.], tekhn.red.

[Handbook for zootechnicians] Dovidnyk zootekhnika. 2., dopovnene i pereroblene vyd. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry URSR, 1960. 728 p. (MIRA 15:2)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina (for Potemkin). 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Kniga).
(Stock and stock breeding)

POPOV, O.Ya., otv. red.; ZORIN, I.G.[Zorin, I.H.], kand. sel'-khoz. nauk, red.; MOKEYEV, O.Yu., kand. sel'khoz. nauk, red.; SHUL'ZHENKO, I.F., prof., red.; ZHELIKHOVSKIY, V.I.[Zhelikhovs'kyi, V.I.], red.

[Possibilities of increasing the production and reducing the cost of beef; materials of a session of the Stock-breeding Section of the Scientific Council of the Ministry of Agriculture of the Ukraine] Rezervy zbil'shennia vyrobnytstva i znyzhennia sobivartosti ialovychyny; materialy sesii sektsii tvarynnytstva vchennoi Rady pry MSH URSR. Kyiv, Urozhai, 1965. 178 p. (MIRA 19:1)

1. Ukraine. Ministerstvo sil'skoho hospodarstva URSR.
2. Ministerstvo Sel'skogo khozyaystva Ukr.SSR (for Zorin).
3. Ukrainskaya sel'skokhozyaystvennaya akademiya (for Shul'zhenko).

POPOV, O.Ye. [Popov, O.IE.]

Chemistry and pressure properties of underground waters in the Buchak horizon in connection with the tectonic characteristics of the Paleogene in the Dnieper-Donets Lowland. Nauk.zap.Kyiv.un. 16 no.14:213-218 '57. (MIRA 13:4)
(Dnieper Lowland--Water, Underground)
(Donets Basin--Water, Underground)

RUDENKO, F.A.; POPOV, O.Ye. [Popov, O.IE.]

Underground water resources in the Pontic-Maeotic horizon of the Black Sea portion in the left bank of the Dnieper River. Visnyk Kyiv.un.Ser.geol.ta geog. no.1:55-63 '58. (MIRA 12:10)
(Black Sea region—Water, Underground)

POPOV, O.Ye. [Popov, O.IE.]

Principles for dividing the Ukrainian territory from the point of view of engineering geology. Visnyk Kyiv.un.Ser.geol.ta geog. no.1:71-76 '58. (MIRA 12:10)
(Ukraine--Engineering geology)

RASTORGUYEV, I., inzh.; POPOV, P., inzh.

Unit for washing small parts. Avt. transp. 43 no.8:48-49 Ag '65. (MIRA 18:9)

RUMANIA

BELOKONSKI, I.; RUSEV, G.; KRAEV, D.; SEICOV, N.; and POPOV, P. "Affiliations not shown", (Peoples Republic of Bulgaria)

"Early Adynamia in the Radiation Sickness"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 427-437

Abstract: Studies on 500 rats, 2000 mice, 50 dogs: 450, 900, 1800, 5000 r; detail study of muscular weakness following radiation; conditioned reflex response and other central nervous system functions; spontaneous motor activity; muscular response to electrical stimulation, metabolism of potassium, sodium and calcium in the muscles; actomyosin contractility. 13 diagrams.

1/1

POPOV, P. (Narodnaya Respublika Bolgariya); POPOV, S. (Narodnaya Respublika Bolgariya)

Bulgarian visual aids in the study of natural history. Biol. v shkole no. 6:81-82 N-D '60. (MIRA 14:1)
(Bulgaria--Natural history--Audio-visual aids)

POPOV, Petur

Scientific session of Bulgarian programmers. Spisanie BAN 9 no.3: 123-126 '64.

107-57-2-56/56

AUTHOR: Popov, P. Chief Editor of the DOSAAF Publishing House

TITLE: Plans of the DOSAAF Publishing House
(Plany Izdatel'stva DOSSAF)

PERIODICAL: Radio, 1957, Nr 2, pp 63-64 (USSR)

ABSTRACT: The publisher plans to increase considerably the number of copies planned for publication in 1957 and intended for radio amateurs. "A Handbook For the Shortwave Amateur" will be printed in 100,000 copies. A number of other new books with their titles and authors are listed in the article.

AVAILABLE: Library of Congress

Card 1/1

POPOV, P.

The Third Radio Exhibition of Radio Amateurs of Sofia. Radio i televiziia 12 no.2:35-37 '63.

POPOV, P. ; IVANOV, A.

Joint work between the tractor and field brigades.

P. 30, (Mashinizirano Zemedelie) Vol. 8, no, Apr. 1957, Sofia, Bulgaria

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, 11 November 1957

POPOV

DOBUDOGLO, N., komandir podrazdeleniya; POPOV, P., zamestitel' komandira podrazdeleniya po politicheskoy chasti.

The annual plan has been fulfilled. Grazhd.av.13 no.11:4-5 N '56. (MLRA 10:2)
(Aeronautics, Commercial)

POPOV, P.

SMIRNOV, A.; POPOV, P.

Technical radio literature in 1957. Radio no.2:63-64 F '57. (MLRA 10:3)

1. Glavnyy redaktor Gosenergoizdata (for Smirnov) 2.Glavnyy redaktor Izdatel'stva Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu (for Popov). (Radio)

POPOV, P.; POPOV, T.

Cereal problem in Bulgaria, and possibilities for its solution during the long-term plan. Selskostop nauka 2 no. 3/4 285-298 '63.

FOFOV, F.

FOFOV, F. Our furniture export. p. 75. Vol. 5, no. 3, Mar. 1955. FAIPAR. Budapest, Hungary.

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

RUMENOV, Iv.; POPOV, P.

On postoperative hematological reactions of the organism.
Khirurgiia 15 no.9/10:903-904 '62.

1. Iz khirurgichnoto otdelenie i klinichnata laboratoriia pri II gr. obedinena bolnitsa - Sofiia.
(SURGERY OPERATIVE) (BLOOD CELL COUNT)

POPOV, P.

Information service in plant protection. p. 19.
(Kooperatvino Zemedelie, Vol. (12) no. 3, Mar. 1957. Sofiia, Bulgaria)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

POPOV, P.

Scientific session on the problems of cereals in Bulgaria. Selskostop nauka 2 no.9:1167-1171 '64.

KAMENSHCHIKOV, V.; RASTORGUYEV, I., inzh.; POPOV, P., inzh.; FIL'KIN, I.

Exchange of experience. Avt.transp. 43 no.3:48-49 Mr '65.
(MIRA 18:5)

POPOV, Petar

Certain problems relating to the general economic division of Bulgaria's territory. Foldr kozl 8 no.3:279-284 '60.

POPOV, Petur

Economic regional division and complex study of productive forces. Spisanie BAN 7 no.3:39-49 '62.

POPOV, Petur

Appearance, spreading and possibilities of the development of the Colorado beetle in Bulgaria. Selskostop nauka 1 no.4/5:485-492 '62.

1. Tsentralen nauchnoizsledovatelski institut za zashtita na rasteniiata v Sofiia.

POPOV, P.

USSR/ Miscellaneous - Bibliography

Card 1/1 Pub. 89 - 9/32

Authors : Popov, P.; Shipov, V.; and Smirnov, A.

Title : Radio engineering literature published in 1955

Periodical : Radio 2, 13 - 14, Feb 1955

Abstract : A review is presented of technical books and literature dealing in problems of radio engineering, namely; instruction manuals for radio specialists and amateurs; selection and application of secondary materials in radio design; magnetic recording and design of magnetic microphones; tuning amplifier channels in television sets; measurements used in radio engineering; radio receivers; radio-relay installations; principles of color television; cable lines for radio installations; electron and ion transformers; contemporary problems in vacuum-tube design; calculation of low and mean-power tube generators; intermediate frequency amplifiers; use of crystal triodes in radio engineering; photoelectric cells and their application;etc.

Institution: .....

Submitted: .....

Popov, P

621.39

2269

Radiotechnical Literature [in the U.S.S.R.] In 1956.—V. Shipov, A. Smirnov & P. Popov. (*Radio, Moscow*, Jan. 1956, No. 1, pp. 16–17.) Brief survey of the publishing programme of three leading publishing houses.

POPOV, P.

Everyday routine of small enterprises. Mias.ind.SSSR 30 no.6: 20-21 '59. (MIRA 13:4)

1. Glavnyy inzhener Berdyanskogo myasokombinata.
(Berdyansk--Meat industry)

POPOV, P.; SHIPOV, V.; SMIRNOV, A.

Technical radio literature in 1955. Radio no.2:13-14 F '55.
(MLRA 8:3)

1. Glavnyy redaktor Izdatel'stva DOSAAF (for P.Popov). 2.Nachal'nik Svyaz'izdata (for V.Shipov). 3.Glavnyy redaktor Gosenergoizdata (for A.Smirnov).

(Bibliography--Radio)

POPOV, Pavel; KOLEV, Dimitur; BOIADZHIEVA, Dora; VANCHEV, Nikola

Possibilities of introducing some new Italian varieties of wheat. Selskostop nauka 2 no.5/6:534-543 '63.

Popov, P.

USSR/ Electronics - Literature

Card 1/1 Pub. 89 - 9/30

Authors : Shipov, V.; Smirnov, A.; and Popov, P.

Title : Technical radio literature in the year 1956

Periodical : Radio 1, 16 - 17, Jan 56

Abstract : A list is presented of books, pamphlets, etc. issued by the SVYAZ'IZDAT (Publishing Office for Communications Literature) in the year 1955 with names of authors and nature of publication. The plans of the GOSENERGOIZDAT (State Publishing Office for Power Engineering Literature) for publishing books, pamphlets, etc. in 1956 are described. An account is also given of the literature that the DOSAAF (Volunteer Organization for Cooperation with the Armed Forces) is intending to issue in 1956.

Institution : .....

Submitted : .....

Popov, P.

"Oreshets" P. 3
(GEOGRAFIIA, Vol. 4, No. 7, 1954 - Bulgaria)

SO: Monthly List of East European Accessions, (EEAL) LC, Vol. 4, No. 4, Apr. 1955, Uncl.

POPOV, P.

"Chiporovtsi." p. 5,
(GEOGRAFIIA, Vol. 4, No. 10, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

FOFOV, P.

"Reciprocal Effect of the Development of the Furniture Industry and Exportation of Furniture", P. 98. (FAIPAR, Vol. 4, No. 4, April. 1954, Budapest, Hungary)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

POPOV, P.

58/49T17

USSR/Chemistry - Arsenic Compounds Jan 49
Chemistry - Halogens

"Binary Halogenides of Arsenic and Organic Bases,"
P. Popov, Chair of Org Chem, Tomsk State U,
14 3/4 pp

"Zhur Obshch Khim" Vol XIX, No 1

Describes a new group of binary halogenides of arsenic, determining the relation between structures of the given complexes and the nature of the original components. Submitted 27 Aug 47.

[redacted] 58/49T17

POPOV, P.

BURKOV, T., dots.; SIRAKOV, V.; VELICHKOVA, P.; TUZLUKOVA, L.; PEEVA, D.; POPOV, P.

Studies on distribution of dental caries in students in certain regions as the initial stage of presentation of the picture of dental caries in the country. Stomatologiia, Sofia no.3:153-167 1954.

1. Iz Republikanskiia nauchno-izsledovatelski stomatologichen institut (direktor: dots. T.Burkov)
(DENTAL CARIES, epidemiology,
Bulgaria)

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

B-II-5

Comparison of esterification of cellulose and hydrocellulose. IV. I. [illegible] and P. Popov (J. Appl. Chem. Russ., [illegible], 12, [illegible]—101; cf. B., [illegible], [illegible]).—The Ac content of the product of acetylation of cellulose with Ac_2O in C_6H_6–C_5H_5N is < in C_6H_6–quinoline, and in both solvents > that of hydrocellulose.
R. T.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

AID P - 5512

Subject : USSR/Propaganda

Card 1/1 Pub. 58 - 3/17

Author : Popov, P., Colonel

Title : Military arts must be studied with perseverence

Periodical : Kryl. rod., 2, 6-7, F 1957

Abstract : The author calls on the Soviet youth to join the DOSAAF organizations where they will be trained for becoming skilled military pilots. The study of military arts is asserted to be a patriotic duty of all Soviet citizens. 1 photo.

Institution : None

Submitted : No date

CA

Double halides of arsenic and organic bases. P. Popov *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 47-61(1949). cf. C.A. 34, 765⁹. Four types of double bromides differing in the ratio of salt of an org. base to $AsBr_3$ are obtained as cryst. solids at room temp. by slowly mixing solns. of $AsBr_3$ and of the salt of an org. base in $CHCl_3$. The compn. of the complex depends on the relative quantities of starting materials, the order of mixing, and the temp. Quinoline-HBr yields $2C_9H_7NHBr.AsBr_3$, m. 130-8°, and $C_9H_7NHBr.AsBr_3$, m. 148°. With quinoline-EtBr, the ratio of $C_9H_7N.EtBr$ to $AsBr_3$ may be 1:2 (m. 95-7°), 1:1 (130-2°), or 2:1 (180-2°). Quinoline-BuBr forms a 1:1 complex, m. 78°. 2-Methylpyridine-HBr forms a 1:1 (63-5°) and a 3:2 compd. (97-100°), but the 2-Me isomer forms a 1:1 (61-3°) and a 2:1 compd. (136°). Pyridine-EtBr forms 1:1 (110-12°) and 2:1 complexes. With pyridine-BuBr only the complex $3C_5H_5NBuBr.2AsBr_3.CHCl_3$, m. 68-70°, was isolated. These As double bromides are examples of 6 general groups of complex halides in which the ratio of the org. hydrohalide, RHX (R is an org. base), to MX_3 can be 3:1, 5:2, 2:1, 3:2, 1:1, or 1:2. A list of 186 such complexes, together with the m.p. and cryst. forms, is given. Diagrams are offered to show the interconversions in $CHCl_3$ in the systems pyridine–HBr–$AsBr_3$, pyridine–HCl–$AsCl_3$, pyridine–HI–AsI_3, piperidine–HBr–$AsBr_3$, quinoline–BiX_3 (in Me_2CO), pyridine–BiX_3 (in Me_2CO), and pyridine–$SbCl_3$ (in ether). The following generalizations can be made on the basis of the behavior of the known complexes (all formulas are given as the ratio of the org. complexing mol. to the mols. of inorg. halide to the mols. of solvent). As the at. wt. of the halogen increases, the stable form of the complex shifts from 1:1 to 2:1:1. Regardless of the halogen, the substitution of pyridine for quinoline makes the most stable form 1:1. There are practically no 5:2 or 3:2 complexes for As, Sb, and Bi; the 1:1 type seems most numerous, except that for As the 2:1 types seems to be equally numerous. The structural formulas suggested for the As complexes are as follows: 1:1, $[AsX_4]RH$; 1:2, $[X_2AsXAsX_4](RH)_2$; 3:1, $[AsX_4][AsX_3](RH)_3$; 3:2, $[X_4AsXAsX_4](RH)_2$. Structural formulas are also given for 3(pyridine-HBr).2$AsBr_3$.$CHCl_3$ and the corresponding 2:1:1 complex. In the former, $CHCl_3$ and one Br act as bridges between the 2 As atoms to each of which 4 other Br atoms are attached; in the latter, 5 Br atoms and the $CHCl_3$ are attached to the As. Two addnl. complexes are reported for 1,4'-bipyridine-2HBr. With excess $AsBr_3$ there is formed $BrHNC_5H_4$-C_5H_4NH-Br.$AsBr_3$, which is assumed to have an extended chain structure repeating as shown. With an excess of bipyridine salt is formed the 1:2 complex, for which the structure is assumed to be $Br_2AsBrHNC_5H_4$-C_5H_4NHBr.$AsBr_3$.

M. J. Sienko

POPOV, Petur, inzh, khim.

A more rational utilization of power oils in electric power systems. Elektroenergiia 12 no.11/12:44-47 N-D '61.

POPOV

SURNAME, Given

(1)

Country:

Academic Degrees: not given

Affiliation: Junior Scientific Collaborator at the Geographic Institute of the Bulgarian Academy of Sciences (Geografski Institut pri BAN)

Source: Member of the staff of Geografiya
Sofia, Geografiya, No 4, 1961, pp 7-8

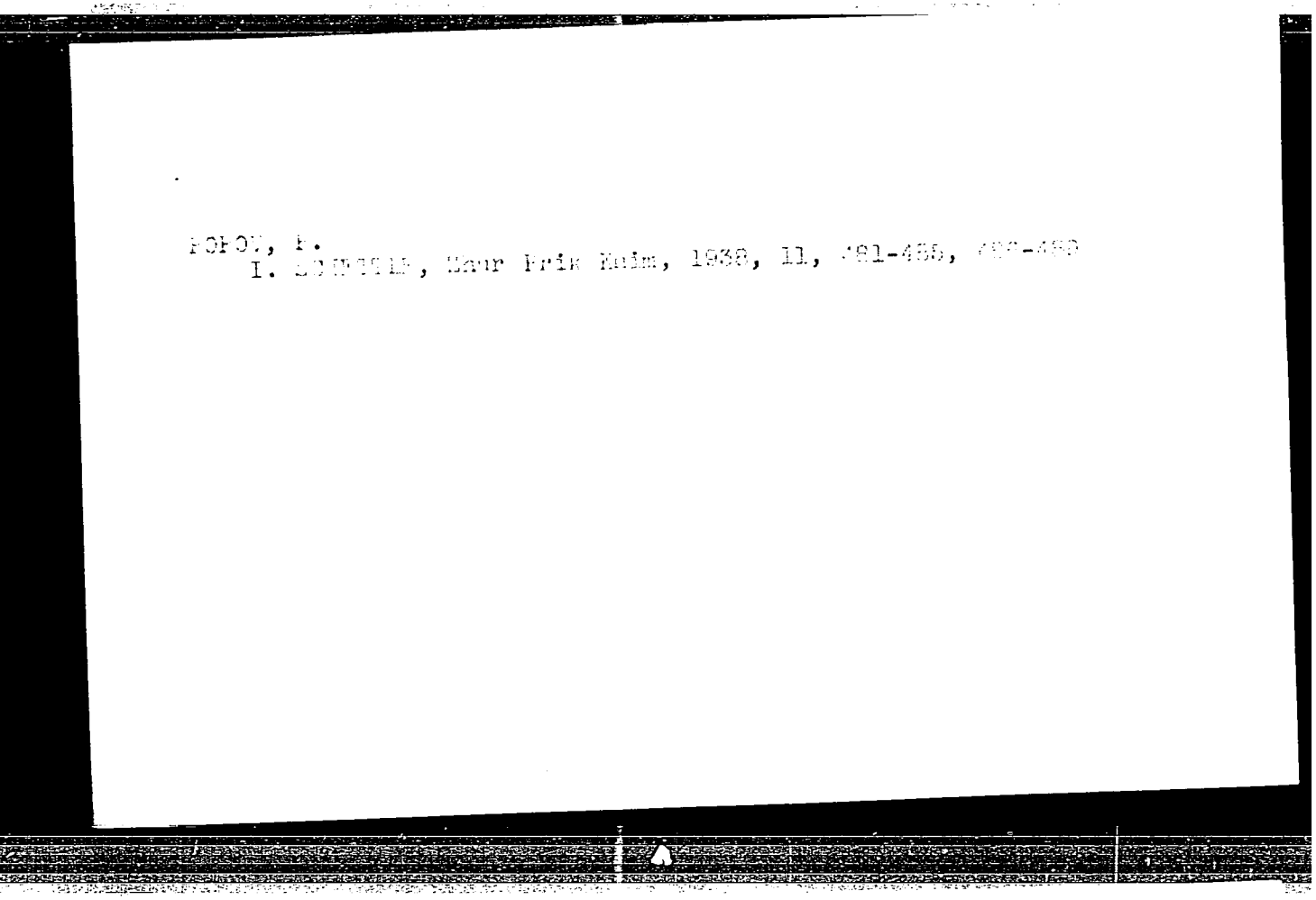
Data: "The Medet Region"

GPO 981643

POPOV, P.

Efficiency promoters and production. Mias.ind.SSSR 31 no.3: 49-51 '60. (MIRA 13:9)

1. Berdyanskiy myasokombinat.
(Berdiansk--Meat industry--Equipment and supplies)



ROHY, P.
I. [illegible], Deur Prik Keim, 1938, 11, 481-485, [illegible]