Transfer of Titanium into Weld Metal in Arc-Welding of Aluminum

formation of titanium gas compounds (of $TiCl_4$ type) accounts for the most part of titanium losses. The article gives detailed data on the technology of experiments and all chemical reactions related.
There are 3 tables, 3 diagrams, and 4 references (all Russian)

ASSOCIATION: Sumy Machinebuilding Plant imeni Frunze (Sumskoy mashinostroitel'nyy savod imeni Frunze)

AVAILABLE: Library of Congress

Card 2/2

BESEDNYY V.A.

AUTHORS: Besednyy, V.A., and Kostyuchenko, V.A. 125-58-5-11/13

TITLE: Automatic Welding Under Flux of "L62" and "L062-1" Brass. (Avtomaticheskaya svarka pod flyusom latuni marok L62 i L062-1)

PERIODICAL: Avtomaticheskaya Svarka, 1958, Nr 5, pp 86-88 (USSR)

ABSTRACT: A new, automated technology used at the Sumy Plant imeni Frunze is described. It has replaced the old method of gas welding using the filler material "LK62-0.5" which was unproductive and gave very poor appearance to welds. The welding tractor "TS-17M" was modified for the purpose (by replacing the wire container, with an open bobbin for copper wire and the common electrode holder with one for welding aluminum by aluminum wire). Copper wire was used as electrode wire. The best fluxes proved "MATI-53" and "ANF-5". "MATI-53" consists of 77% "OSTs-45" flux, 7.6% boric acid, and 15.4% soda ash; its production technology was previously described [Ref. 1]. The optimum way of automatically welding brass (with very stable welding process and good mechanical properties of the weld joints) is welding under flux "ANF-5" by copper wire alloyed by iron and manganese. There are 5 tables and 2 Soviet references.

Card 1/2

125-58-5-11/13

Automatic Welding Under Flux of "L62" and "L062-1" Brass

ASSOCIATION: Sumskoj zavod imeni Frunze (Sumy Plant imeni Frunze)

SUBMITTED: January 9, 1957

AVAILABLE: Library of Congress

Card 2/2

SOV/137-59-12-26765

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 12, p 144 (USSR)

AUTHOR: Besednyy, V.A., engr.

TITLE: Development of Argon-Arc Welding of Aluminum and Its Alloys

PERIODICAL: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., 1958, Nr 26, pp 107 - 112

ABSTRACT: The author reports on experiences made at the Sumy Mashinebuilding Plant imeni Frunze in the field of manual and automatic argon-arc welding of high-purity Al and its alloys. Conditions are described for manual and automatic welding of 12 - 20 mm thick aluminum.

I.A.

Card 1/1

S/184/60/000/004/005/021
A109/A029

AUTHORS: Besednyy, V.A.; Briksman, A.N. - Graduate Engineers

TITLE: Welding of 1X18H9T (1Kh18N9T) Steel With Low-Carbon-Steel

PERIODICAL: Khimicheskoye Mashinostroyeniye, 1960, No. 4, pp. 14 - 17

TEXT: Welding of low-carbon steel with acid-proof steel is frequently employed in manufacturing chemical equipment by the Sumskiy mashinostroitel'nyy zavod im. Frunze (Sumy Machine Building Plant imeni Frunze). The following electrodes are recommended for welding of low-carbon steels with acid-proof 18-8 (Cr-Ni) steels: УОНИ/НЖ (UONI/NZh) and ЭНТУ-3 (ENTU-3) with wires of a chemical composition similar to 18-8 steel and Св Х25Н13 (Sw Kh25N13) and Св Х25Н20 (Sw Kh25N20) wires. Sw Kh25N13 is insulated with ENTU-3 and laboratory tests revealed a tendency to hot cracks in Sw Kh25N20 wires. Experience proved that technically inferior UONI/NZh electrodes produce harder fusion-zone joints than ENTU-3 and OX18H9 (OKh18N9) wires. The possibility of improving welded joints by addition of alloying substances was tested on 10-mm thick 1Kh18N9T and St.3 steels and butt-welded 400 x 100 x 10 mm strips. Automatic welding was carried out by ХНК-66 (KhNK-66) flux with 5-mm electrode wire at 500 amp, a welding

Card 1/2

Welding of 1X18H9T (1Kh18N9T) Steel With Low-Carbon Steel

speed of 27.5 m/h and wire speed of 62.5 m/h. Metallographic tests were made by Graduate Engineer T.A. Akol'tseva on a ПМТ-3 (PMT-3) installation at a load of 200 g. A description of testing of welded joints is given. As expected the best results were achieved by addition of manganese. Its numerous advantages and the ability to decrease the hardness of metal decided its choice as basic alloying agent. The best manganese alloy is the X20H20Г6 (Kh20N10G6) wire (3.0% Mn content in joint). Tendency to micro-fractures was determined by the multi-layer surfacing method. Various types of electrodes were tested. 0Kh18N9 wire insulated with ENTU-3 to which 8% of Мр2 (Mr2) manganese was added; X20H10Г6T (Kh20N10G6T) wire unsultated with Ф-1 (F-1) and electrodes ensuring a higher content of manganese in the joint, i.e., Kh20N10G6T wire insulated with ENTU-3 and enriched with 8% of Mr2 manganese. These were compared to ENTU-3 electrodes with Kh25N13 wire recommended by NIIKhIMMASh (Ref. 5). The tests showed that automatic welding of low-carbon St. 3 steel with 1Kh18N9T steel is most expediently performed with Kh20N10G6 filler wire and non-alloying KhNK-66, AH-26 (AN-26) and AHФ-5 (ANF-5) fluxes. Electrodes with Kh20N10G6 wiring insulated with non-alloying F-1 insulation are recommended for manual electric arc welding. There are 2 tables, 4 figures and 5 Soviet references.

Card 2/2

S/184/62/000/004/004/006
D040/D113

AUTHORS: Besednyy, V.A., Strelets, L.A., and Budin, V.N., Engineers

TITLE: Welding KhN78T steel

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 4, 1962, 30-33

TEXT: The ХН78Т (ЭИ -435) (KhN78T [EI-435]) steel is a nichrome grade (20% Cr, 80% Ni) used in thin-sheet structures for service at up to 800°C. It has a high gas corrosion resistance at 1100°C but relatively low strength at high temperatures due to the additions of 0.15-0.35% Ti and up to 0.15% Al, and has a tendency to hot cracking and porosity during welding. The Sumskiy mashinostroitel'nyy zavod im. Frunze (Sumy Machinebuilding Plant im. Frunze) uses KhN78T steel for welded cylindrical vacuum vessels and has developed welding techniques by which sound welds can be obtained in manual arc welding with and without argon. High-frequency a.c. is mostly used though d.c. can also be employed. Welding must be conducted with minimum current, a short arc, and without transverse oscillations of the electrode.

Card 1/2

Welding KhN78T

Contamination with oxygen, sulfur, phosphor, silicon, etc., must be avoided, every welded bead must be left to cool completely and be cleaned before welding the next one and the argon must be pure. The best wire for argon arc welding is Х20Н80Т3 (Kh20N80T3) with high Ti and Al content; ЭХ20Н80 (EKh20N80) wire with НЖС-13 (NZh-13) coating can be used for welding without argon. Weldments must be annealed at 1050-1100°C to relieve residual deformation. KhN78T can also be joined to 1Х18НДТ (1Kh18NDT) steel using austenitic ЭА1М (EA1M) wire with МФ-1 (MF-1) coating. Polygonization, grain growth at the fusion line and twinning of crystals is not fully eliminated. The chemical composition of the 3 welding wire grades used in experiments and the composition and mechanical properties of welds obtained with each, are tabulated. There is 1 figure and 3 tables.

Card 2/2

L 61820-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c)
MJW/JD/JG/WB

ACCESSION NR: AP5018284 UR/0314/65/000/007/0035/0038 22
621.791.856:669.295.001.51 21
B

AUTHOR: Besednyy, V.A. (Engineer); Shelenkov, G. M. (Engineer)

TITLE: Experimental construction of welded titanium chemical equipment

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 7, 1965, 35-38

TOPIC TAGS: chemical apparatus, titanium welding, weld corrosion, weld mechanical property

ABSTRACT: Chemical devices made of titanium have been produced during the past five years by the factory im. Frunze. After a brief description of the drier (e.g., for tungstic acid), four-way heat exchanger, evaporators, and column-type mixers, the authors discuss the titanium welding technique in detail. Welding was carried out by manual argon-arc equipment using 1-20 mm sheets of VT1-1 titanium. The nonmelting electrode was made of lanthanum-alloyed tungsten. Welding procedures for various types of welds are given together with the pertinent welding parameters and estimates of weld quality and weld corrosion stability (tests with H_2SO_4, HNO_3, HCl, and $H_2C_2O_4$). Orig. art. has: 6 figures and 2 tables.

Card 1/2

L 61820-65

ACCESSION NR: AP5018284

ASSOCIATION: Zavod im. Frunze (Factory im. Frunze)

SUBMITTED: 00 ENCL: 00 SUB CODE: GC, IE

NO REF SOV: 000 OTHER: 00

Card 2/2

BESEDOVSKIY, A. I.

Besedovskiy, A. I.

"Multi-Speed Asynchronous Motors." Min Higher Education USSR. Khar'kov Polytechnic Inst imeni V. I. Lenin. Khar'kov, 1955. (Dissertation for the Degree of Candidate in Technical Sciences).

SO: Knizhnaya Letopis', No. 27, 2 July 1955.

GOROKHOV, A.M., putevoy rabochiy; BESEDOVSKIY, D.A.; TARASOV, A.I.; KRIVOBOK, G.K.; MOISEYENKO, A.D., inzh.-mekhanik; YUR'YAKS, P.I. [Jurjaks, P.]; IBRAGIMOV, A.A.; SAFRONOV, V.S.; SHAROV, N.N.

Letters to the editor. Put' i put.khoz. 7 no.4:40-42 '63.
(MIRA 16:3)

1. Stantsiya Talovaya, Yugo-Vostochnoy dorogi (for Gorokhov). 2. Nachal'nik distantsii zashchitnykh lesonasazhdeniy, stantsiya Atkarsk, Privolzhskoy dorogi (for Besedovskiy). 3. Nachal'nik putevoy mashinnoy stantsii, stantsiya L'gov, Moskovskoy dorogi (for Tarasov). 4. Sekretar' partiynoy organizatsii stantsii Nikitovka, Donetskoy dorogi (for Krivobok). 5. Stantsiya Nikitovka, Donetskoy dorogi (for Moiseyenko). 6. Brigadir puti, stantsiya Platone, Pribaltiyskoy dorogi (for Yur'yaks). 7. Zamestitel' nachal'nika distantsii, Sal'yany, Zakavkazskoy dorogi (for Ibragimov). 8. Starshiy normirovshchik, stantsiya Rtishchevo, Privolzhskoy dorogi (for Safronov). 9. Sekretar' partiynoy organizatsii, stantsiya Rtishchevo, Privolzhskoy dorogi (for Sharov).

(Railroads—Maintenance and repair)

BESEDOVSKIY, D.A.

Modification of the design of protective tree belts. Put' i put.khoz. 7 no.9:43 '63. (MIRA 16:10)

1. Nachal'nik Atkarskoy distantsii zashchitnykh lesonasazhdeniy Privolzhskoy dorogi.

BESKDOVSKIY, V., inzhener-polkovnik.

Classroom for studying automobile and tractors. Voen. vest. 37 no.3: 54-57 Mr '58. (MIRA 11:3)
(Automobile engineering--Study and teaching)

BESEKERSKIY, V.A.

"Remote Control of Artillery Units" (Distantsionnoye upravleniye artilleriyski i ustanovkami). Leningrad Order of the Red Banner Military-Mechanical Institute (Leningradskiy ordena Krasnogo znameni voyenno-mekhanicheskiy institut), 264 pp., 1947

BESEKERSKIY, V.A.

FA 50T28

USSR/Engineering — Nov/Dec 1947
Regulators
Resonators

"Utilization of Resonator as Means of Eliminating Nonlinearity in Automatic Regulators," V. A. Besekerskiy, 6½ pp

"Avtomatika i Telemekh" Vol VIII, No 6

Describes method of eliminating nonlinearity in automatic regulators, connected to the presence of the force of dry friction, dead zone in the servomotor, and clearance and backlash in the coupled parts. Explains how possible by introduction of

LC — 50T28

USSR/Engineering (Contd) — Nov/Dec 1947

periodic resonator into the circuit of automatic regulator to eliminate the dead zone of the regulator sensitivity, and to increase accuracy and dependability of regulation.

LC — 50T28

BEL'SKIY, I.R.; BESEKERSKIY, V. A.; DONSKOY, A.V.; PRESS, A. S.; YURKOVSKIY, YE. K.

Electric Engineering

"General course on electric engineering for non-electrotechnical higher technical schools. General electric engineering." Reviewed by Profs. V. P. Khashechinskiy, S. A. Press. Eloktrichestvo no. 8, 1952.

Monthly List of Russian Accessions. Library of Congress. November 1952. UNCLASSIFIED.

BESEKERSKIY, V.A.(Leningrad).

I.I., Gal'perin's and M.A.Aizerman's objectless discussions.
Avtom. i telem. 14 no.1:102-103 Ja-F '53. (MLRA 10:3)
(Automatic control)

Besekerskiy, V. A.

AID P - 2829

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 18/30

Authors : Besekerskiy, V. A., Kand. of Tech. Sci., Leningrad, and Mirtez, Bohumil, Praha, Czechoslovakia

Title : Electronic gear for the stabilization of a-c follow-up drives. Article by Ye. I. Baranchuk, this journal, No. 6, 1953 (Discussion)

Periodical : Elektrichestvo, 6, 75-76, Je 1955

Abstract : The first author sharply criticizes Baranchuk's theoretical investigations as compared with the diagrams presented, which are provided with a negative feedback, while the conclusions are based on the assumption of a positive one. The author proves in examples that resulting formulas are false. He also points to several other faulty statements of the article. The second author disagrees with the statement in the article discussed that electronic stabilizers are better and more reliable than other types. He demonstrates his contention

BESEKERS'KIY, V.A.; FABRIKANT, Ye.A. (Leningrad).

Evaluating the errors in passive differentiating and integrating electric circuits depending on the supposed character of the process to be investigated [with summary in English]. Avtomatyka no.4:52-66 '57. (MIRA 11:1)

(Electronic circuits)

BESEKERSKIY, V.A., kand. tekhn. nauk; DIOMIDOV, V.B., kand. tekhn. nauk.

Calculating magnetic field around ferromagnetic pipes having various wall thicknesses. Trudy LVMI no.6:308-315 '57. (MIRA 11:5)
(Ferromagnetism)

8(2) PHASE I BOOK EXPLOITATION SOV/1290

Besekerskiy, Viktor Antonovich, V.P. Orlov, L.V. Polonskaya, and S.M. Fedorov. Proyektirovaniye sledyashchikh sistem maloy moshchnosti (Design of Low-power Servo Systems) Leningrad, Sudpromgiz, 1958. 508 p. 9,000 copies printed.

Ed. (title page); Besekerskiy, Viktor Antonovich; Scientific Ed.; Khrushchev, V.V.; Ed. (inside book): Shaurak, Ye. N.; Tech. Ed.: Levochkina, L.I.

PURPOSE: The book is intended for engineers engaged in the design and development of servo systems. It may also be useful to students of vuzes specializing in automatic control.

COVERAGE: The authors describe the principles of designing low-power servo systems (100-200 watts). The first part of the book deals with general problems of synthesizing servo systems. It also discusses the requirements for stability, accuracy, and smooth operation of servo systems at low speeds. The second part describes problems of synthesizing some special types of servo

Card 1/21

SOV/24-59-1-10/35

AUTHOR: Besekerskiy, V.A., (Leningrad)

TITLE: The Transfer Function of a Relay Effector Mechanism (O peredatochnoy funktsii releynogo ispolnitel'nogo mekhanizma)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, Energetika i Avtomatika, 1959, Nr 1, pp 74-77 (USSR)

ABSTRACT: Harmonic balance methods are used to derive the transfer function of a hysteresis-free relay effector mechanism that controls a reversible motor. The equations of motion are first derived in the usual way. The new feature in an otherwise standard treatment is that the motor is considered as a free-running flywheel for the period when the armature circuit is disconnected (the inertia of the load is neglected). The amplitude and phase characteristics are given. The effects of hysteresis in the relay are then briefly dealt with;

Card 1/2

The Transfer Function of a Relay Effector Mechanism

it is shown that an extra phase shift in the first harmonic is caused. There are 6 figures and 7 Soviet references.

SUBMITTED: 1st September 1958

BESEKERSKIY, V.A.

PHASE I BOOK EXPLOITATION SOV/4526

Soveshchaniye po teorii invariantnosti i yeye primeneniyu v avtomaticheskikh ustroystvakh. Kiyev, 1958

Teoriya invariantnosti i yeye primeneniye v avtomaticheskikh ustroystvakh; trudy soveshchaniya (Theory of Invariance and Its Applications to Automatic Devices; Transactions of the Conference Oct. 16-20, 1958) Moscow, 1959. 381 p. No. of copies printed not given.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Otdeleniye tekhnicheskikh nauk.

Resp. Ed.: V.S. Kulebakin, Academician; Editorial Commission: V.A. Bodner, Doctor of Technical Sciences, A.G. Ivakhnenko, Doctor of Technical Sciences, A.Yu. Ishlinskiy, Academician, Academy of Sciences UkrSSR, N.A. Kachanova, Candidate of Technical Sciences, P.I. Kuznetsov, Doctor of Physics and Mathematics, A.I. Kukhtenko, Doctor of Technical Sciences, B.N. Petrov, Corresponding Member, Academy of Sciences USSR, Ye.P. Popov, Doctor of Technical Sciences, G.M. Ulanov, Doctor of Technical Sciences, K.K. Khrenov, Academician, Academy of Sciences UkrSSR, P.I. Chinayev, Candidate of Technical Sciences, and N.M. Chumakov, Candidate of Technical Sciences; Tech. Ed.: G.V. Kruglov.

PURPOSE: This collection of papers is intended for engineers and other specialists working in various fields of automation.

COVERAGE: The collection includes reports and papers presented at the Conference on the Theory of Invariance and Its Applications to Automatic Devices, which was called by the Otdeleniye tekhnicheskikh nauk (Department of Technical Sciences) and the Institut elektrotekhniki (Institute of Electrical Engineering) of the Academy of Sciences of the Ukraine and convened in Kiyev October 16 - 20, 1958. The papers presented are concerned with high-quality automatic control systems designed on the basis of compensating for the effects of disturbances or maintaining the invariance of the quality to be regulated with respect to the disturbances acting on the system. The reports treat the physical and mathematical foundations of invariance in automatic control systems, they also consider methods for designing and calculating invariant systems and problems connected with specific cases of practical applications of compensation in various automatic systems. On the basis of these reports it was established by the Conference that, by utilization of the conditions of compensation and the principle of invariance, it is possible to produce automatic systems and various arrangements which are more perfect from the viewpoint of quality of the regulation and control process, stability, simplicity of construction, and reliability of operation. The following members of the Kiyev Seminar on Automatic Control are mentioned as organizers of the conference: A.I. Kukhtenko, A.G. Ivakhnenko, Yu.G. Kornilov, O.M. Kryzhanovskiy, N.M. Chumakov, N.A. Kachanova, and P.I. Chinayev. References accompany each article.

Card 6/8

DESEKERSKIY, V.A.

report to be presented at the 1st Intl Congress of the Intl Federation of Automatic Control, 25 Jun-5 Jul 1960, Moscow, USSR.

AGEYKIN, D. I. - "Compensating thermo-magnetic gas analysers"
ANDREYEV, N. I. - "Method of determining the optimum dynamic system
according to the criterion of the functional extra, which is a given
function of several other functions"
AYZERMAN, M. A., and GANTMAKHER, F. P. - "Some problems of the theory of
nonlinear systems of automatic regulation with discontinuous character-
istics"
BARBASH, E. A. - "Concerning the organization of the LYAPUNOV function
- for nonlinear systems"
BASHARIN, A. V. - "Graphic methods of synthesis of nonlinear systems
of automatic regulation"
BASHTA, T. M. - "Problems of the application of high liquid pressures
for automatic systems"
BEDEL'BAYEV, A. K. - "The theory of stability of regulation systems"
BELIKOV, Yu. N. - "Multicoordinate nonlinear interpolator for program
control of machines"
BERENDS, T. K., and TAL', A. A. - "Pneumatic alloy systems"
BERSHADSKIY, V. L., KALASHNIKOV, V. I., KNYAZHEVSKIY, V. V., MAZIN,
L. V., POPOV, G. A. - "Automated electric drive of the propeller
installation of the atomic icebreaker "Lenin'"
BESEKERSKIY, V.A., and FEDOROV, S. M. - "Application of the equivalent
transmission function in the calculation of follower systems by the
logarithmic frequency curve method"
BILIK, R. V., KOZHIKASHVILI, V. A., and PRANGISHVILI, I. V. - "Contactless
telemechanical systems with temporary separation of channels"
BOLTYANSKIY, V.G. , GAMKRELIDZE, R. V., MISHCHENKO, Y E. F., and
PONTRYAGIN, L. S. - "The maximum principle in the theory of optimum
control processes"
BRODZOOL', M. M. - "Automated electric drives of a metallurgical plant"
BUROVOY, I. A. - "Automatic regulation of froth-layer processes in
nonferrous metallurgy"

88338

S/024/60/000/06/004/015

S/024/60/000/02/014/031
E140/E135

AUTHORS: Besekerskiy, V.A., and Fedorov, S.M. (Leningrad)

TITLE: The Equivalent Transfer Function for the Design of Servomechanisms with Non-unit Feedback

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, Nr 2, pp 110-115 (USSR)

ABSTRACT: It is recalled that non-unit feedback may be used to increase the precision of servomechanisms, in particular to compensate static, velocity and similar errors. Theoretically non-unit feedback may be used to achieve complete invariance of a system but this is physically unrealisable due to the system being located at the boundary of stability. The equivalent transfer functions of the open system are derived for the static and astatic cases. These functions may be used to design servo-mechanisms by the method of logarithmic amplitude characteristics. An example is calculated for an integrating drive.
There are 4 figures.

Card 1/1

88338

S/024/60/000/006/004/015
E140/E463

On the Dynamics of a Gyrostabilizer Corrected by a Digital Computer

(identified by the author with the envelope, which is of course only approximately true). Two weighting functions are found: one for the positive peak, called the majorant, and the other for the negative peak, called the minorant. The two variants are investigated for two cases, one in which the digital computer is assumed to operate instantaneously and the other in which a computer delay is taken into account. The problem was modelled in an analogue computer and differences of 15 to 20% were found between the measured and calculated curves. There are 7 figures and 5 Soviet references.

SUBMITTED: September 1, 1960

Card 2/2

[redacted]

26.2190

31319
S/569/61/001/000/004/019
D274/D304

AUTHORS: Besekerskiy, V. A., and Fedorov, S. M. (USSR)

TITLE: Use of equivalent transfer function in computing servomechanisms of combined control by the method of logarithmic frequency characteristics

SOURCE: International Federation of Automatic Control. 1st Congress, Moscow, 1960. Teoriya nepreryvnykh sistem. Spetsial'nyye matematicheskiye problemy. Moscow, Izd-vo AN SSSR, 1961. Trudy, v. 1, 154-166

TEXT: The use of the method of logarithmic frequency characteristics in computing combined (open-loop closed-loop) systems is considered. The transfer function of the closed-loop system is

$$\frac{\theta_2}{\vartheta_1} = \Phi(s) = \frac{W(s)\left[1 + \varphi(s)\right]}{1 + W(s)}, \qquad (5)$$

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Use of equivalent...

where W(s) is the transfer function of the open-loop system, θ_1 is the input signal, θ_2 is the angle of rotation of the shaft, and $\varphi(s)\theta_1$ — the compensating signal. One of the methods consists in determining, by Eq. (5), the equivalent transfer function of the open-loop system

$$W_э(s) = \frac{\dot{\varphi}(s)}{1 - \dot{\varphi}(s)} = \frac{W(s)\left[1 + \varphi(s)\right]}{1 - W(s)\varphi(s)} \qquad (9)$$

and then forming (by suitable choice of the levels of the compensating signal) the logarithmic frequency characteristic (LFC), so as to meet the actual requirements. As the accuracy of servomechanisms is affected by the form of the LFC in the low-frequency region, the influence of the compensating signals $\varphi(s)\theta_1$ is considered in that region first. The transfer function of servomechanisms in the low-frequency region can be reduced to four types. The equivalent transfer function (of the second

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Use of equivalent...

type) is

$$W_e(s) = \frac{K_\Omega(1 + \tau_1 s)}{T_1 s^2} = \frac{K_\varepsilon (1 + \tau_1 s)}{s^2} \quad , \qquad (15)$$

where

$$K_\varepsilon = \frac{K_\Omega}{T} \quad ;$$

$\tau_1 s$ is the first derivative of θ_1, K_Ω is the velocity figure of merit, and T is the time constant. The equation of the first asymptote to the LFC (for low frequencies) of the equivalent system corresponds to the equation of the second asymptote to the LFC of the original system, viz.

$$A_1(\omega) = \frac{K_\varepsilon}{\omega^2} \quad . \qquad (16)$$

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Use of equivalent...

The obtained equivalent transfer function can be used as follows for computing servomechanisms. In constructing the desired LFC of a system which operates with maximum velocity Ω_{max} and maximum acceleration ε_{max}, it is possible, on the basis of equivalent sinusoidal input conditions with amplitude

$$\theta_{1\,max} = \frac{\Omega^2_{1\,max}}{\varepsilon_{1\,max}} \qquad (17)$$

and angular velocity

$$\omega_k = \frac{\varepsilon_{1\,max}}{\Omega_{1\,max}} \qquad (18)$$

to plot on the logarithmic net (used for computing servomechanisms) the control point A_k corresponding to the frequency ω_k and the modulus

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Use of equivalent...

$$20 \lg A(\omega_k) = 20 \lg \frac{\theta_{1\,max}}{\theta_{max}},$$

where θ_{max} is the amplitude of the admissible error. These plots are shown in a figure. It follows from the figure that introduction of the compensating signal eases the requirements towards the principal circuit of the servomechanism and makes it possible to operate with a smaller velocity figure of merit. Calculations for the other types of transfer functions and compensating signals can be carried out analogously. The pertinent results are listed in a table. A numerical example is given. Further, the influence of compensating signals on the formation of the medium-frequency part of the transfer function is considered. For systems with step input, the influence of compensating signals is taken into account in computing the medium-frequency part of the transfer function. If the transfer function $\varphi(s)$ of the auxiliary loop is known, it is possible to find from Eq. (9) the desired transfer function of the

Card 5/7

Use of equivalent...

open-loop system (without compensating signals), viz.

$$W_d(s) = \frac{W_{e\,d}(s)}{1 + \varphi(s) + \varphi(s)\, W_{e\,d}(s)} \quad . \qquad (19)$$

The desired function can also be obtained from the transfer function of the closed-loop system, viz.

$$W_d(s) = \frac{\Phi_1(s)}{1 - \Phi_1(s)} \quad . \qquad (23)$$

The desired transfer function, obtained from Eqs. (19) and (23) is thereupon used for calculating the compensating networks. A numerical example is given. In conclusion, the method is recommended for its simplicity and clarity. A discussion followed. There are 6 figures, 1 table and 10 references: 8 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Moore, Combination

Card 6/7

31319
S/569/61/001/000/004/019
D274/D304

Use of equivalent...

open-cycle closed-cycle systems, PIRE, 1951, 39 no. 11; Flight Simulator, Rev. Scient. Instrum., 1956, 27, no. 10.

Card 7/7

BESEKERSKIY, V. A. ; FEDOROV, S. M.

"The Application of the Equivalent Tranmission Function to the Design of Following Systems for Combined Control by the Logarithmic Frequency Characteristics."

paper presented at the First International Congress of the International Federation On Automatic Control (IFAC), Moscow, 27 Jun-7 July 1960.

9,7100
16,8000(1031, 1121, 1132)

23156
S/024/61/000/003/004/012
E140/E463

AUTHORS: Besekerskiy, V.A. and Fedorov, S.M. (Leningrad)

TITLE: The synthesis of servo-systems containing digital computers by the method of logarithmic amplitude characteristics

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1961, No.3, pp.73-81

TEXT: The article considers the application of w-transforms to automatic control systems of a sampled-data character. Neglecting amplitude-quantization errors, but taking into account time-quantization, systems containing digital computers are included in this category. The w-transform permits synthesis to be carried out using customary concept from the theory of continuous systems, in particular the widely applied method of logarithmic-amplitude frequency characteristics. In the low frequency region the transfer function of a system of the type considered practically coincides with that of the corresponding continuous system. Assuming that $2/T_o > \omega_c$, where T_o is the repetition period of the computer and ω_c is the cut-off frequency

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of the continuous part, the high frequency characteristics are obtained by introducing a pseudo-frequency λ_s

$$\lambda = \frac{2}{T_o} \text{ arc tg } \frac{\omega T_o}{2} = \frac{2}{T_o} \frac{w}{j} \qquad (4.6)$$

A simple procedure described in § 5 permits the transfer characteristic in the high frequency range to be obtained. The article concludes with a simple example of a servo-mechanism with second order astatism. The considerations of the article extend to simple pulse systems and systems with digital computers, carrying out any operation not connected with integro-differential transformation. There are 7 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: Johnson G.W., Lindorf D.P., Nordling G.A., AIEE Trans., 1955, part II, v.74.

SUBMITTED: January 31, 1961

BESEKERSKIY, V.A. (Leningrad); FEDOROV, S.M. (Leningrad)

Synthesis of servo systems with digital computers by a method which involves the use of logarithmic amplitude characteristics. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.3:73-81 Jl '61. (MIRA 14:7)

(Servomechanisms)

BESEKERSKIY, Viktor Antonovich; PAL'TOV, Ivan Petrovich; FABRIKANT, Yevgeniy Anatol'yevich; FEDOROV, Stepan Mikhaylovich; CHINAYEV, Petr Ivanovich; SOBOLEV, O.K., red.; MURASHOVA, N.Ya., tekhn. red.

[Collection of problems on the theory of automatic control] Sbornik zadach po teorii avtomaticheskogo regulirovaniia. [By] V.A.Besekerskii i dr. Moskva, Fizmatgiz, 1963. 408 p. (MIRA 16:12)

(Automatic control)

BESFAMIL'NAYA, V.A.; OSTROBORODOVA, V.V.

Recombination properties of shallow levels of gold and copper in p-germanium as determined from the noise spectrum. Fiz. tver. tela 6 no.12:3745-3747 D '64 (MIRA 18:2)

BESEKERSKIY, Viktor Antonovich; VOSTOKOV, Sergey Borisovich; TSEYTLIN, Yakov Moiseyevich; GORDEYEV, V.G., kand. tekhn. nauk, retsenzent; FABRIKANT, Ye.A., nauchn. red.; LESKOVA, L.R., red.

[Electromechanical smoothing devices] Elektromekhanicheskie sglazhivaiushchie ustroistva. Leningrad, "Sudostroenie," 1964. 145 p. (MIRA 17:5)

BEREZNIKOVSKIY Sergey Fedorovich. dots., kand. tekhn. nauk;
BESEKERSKIY, V.A., doktor tekhn.nauk, retsenzent;
VASIL'YEV, D.V., doktor tekhn. nauk, retsenzent;
BLAZHKIN, A.T., prof., red.; KVOCHKINA, G.P., red.

[Automatic regulation and control of electrical machines; some theory problems and elements of control systems] Avtomaticheskoe regulirovanie i upravlenie elektricheskimi mashinami; nekotorye voprosy teorii i elementy sistem upravleniia. Leningrad, Sudostroenie, 1964. 418 p.
(MIRA 17:9)

BLAZHKIN, A.T., doktor tekhn. nauk. prof.; BESEKERSKIY, V.A., doktor tekhn. nauk, prof.; AZIMOVA, K.F., kand. tekhn. nauk, dots.; LANSKOV, V.D., kand. tekhn. nauk, dots.; FABRIKANT, Ye.A., kand. tekhn. nauk, dots.; GUL'DIN, Yu.V., inzh. MEYERSON, I.G., dots.. kand. tekhn. nauk, dots., retsenzent. FROLOV, B.K., red.

[General electrical engineering] Obshchaia elektrotekhnika. Moskva, Energiia, 1964. 655 p. (MIRA 17:12)

1. Prepodavatel' Leningradskogo mekhanicheskogo instituta (for Blazhkin, Besekerskiy, Azimova, Lanskov, Fabrikant, Gul'din).

VORONOV, Avenir Arkad'yevich; BESEKERSKIY, V.A., doktor tekhn. nauk, retsenzent; SEMENOV, V.V., kand. tekhn. nauk, nauchn. red.; PAVLOVA, L.S., red.

[Fundamentals of the theory of automatic control] Osnovy teorii avtomaticheskogo upravleniia. Moskva, Energiia. Pt.1. 1965. 395 p. (MIRA 18:7)

ACC NR: AP6024377 SOURCE CODE: UR/0280/66/000/002/0196/0208

AUTHOR: Besekerskiy, V. A. (Leningrad); Vanyurikhin, G. I. (Leningrad), Gerasimov, A. N. (Leningrad)

ORG: none

TITLE: Design and calculation of unsteady-state automatic control systems by the "frozen-response" method

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1966, 196-208

TOPIC TAGS: unsteady state system, automatic control system, circuit design, function analysis, differential equation

ABSTRACT: The complicated task of the synthesis of an unsteady-state system may be simplified and reduced to the task of synthesis of a steady-state system if the response of unsteady-state elements to a standard input signal, e.g. the step-function, is "frozen," as it were. This may be accomplished by the method of successive approximations, with the first approximation yielding fairly accurate results. The derivation of the subsequent approximations is associated with an increase in the order of the function $\tilde{W}(p)$. (This function is equivalent to the transfer function W(p) of steady-state systems.) Hence, it is expedient to simplify the form of the

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ACC NR: AP6024377

signals received at the input of the unsteady-state element, i.e. to approximate them with simple functions. The synthesis of variable-parameter linear systems of this kind may also be accomplished by the fitting method if the solution within the separated segments is sought by freezing the responses of the unsteady-state element to a standard input signal. This method converges when the coefficients of the differential equations describing the system are piecewise-continuous and may be expanded into a Taylor series over a given interval of time. Thus, the problem of the synthesis of unsteady-state systems can be reduced to an algebraic problem. "In conclusion the authors wish to express their profound gratitude to Kh. L. Smolitskiy for assistance in writing Section 3 of the present article." Orig. art. has: 6 figures, 46 formulas.

SUB CODE: 12, 09/ SUBM DATE: 27May64/ ORIG REF: 005/

Card 2/2

ACC NR: AM6022150 Monograph UR/

Besekerskiy, Viktor Antonovich; Popov, YEvgeniy Pavlovich

Theory of automatic control systems (Teoriya sistem avtomaticheskogo regulirovaniya) Moscow, Izd-vo "Nauka," 1966. 992 p. illus., biblio., index. 15,500 copies printed.

TOPIC TAGS: automatic control system, nonlinear automatic control system, linear automatic control system, control system stability, automatic control technology automatic control theory, programmed automatic control, digital computer, automatic control stability

PURPOSE AND COVERAGE: This book covers closely material of courses on "Automatic control theory" of schools of higher technical education. It may also be useful as a handbook or textbook by a wide circle of engineers, students, and scientists. The book was planned as a revised edition of Ye. P. Popov's book "Automatic Control System Dynamics" (Gostekhizdat, 1959), however, due to the rapid advances in the field of automatic control in recent years, it had to be entirely rewritten. Parts II, III, and IV were written by V. A. Besekerskiy and Parts I and IV by Ye. P. Popov.

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ACC NR: AM6022150

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APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205110010-1"

ACC NR: AM6022150

SUB CODE: 13,09 SUBM DATE: 17Sep65/ ORIG REF: 093/ OTH REF: 007

Card 3/3

ABILOV, G.S., BESHLAGO, V.V., PROKHOROV, A.M.

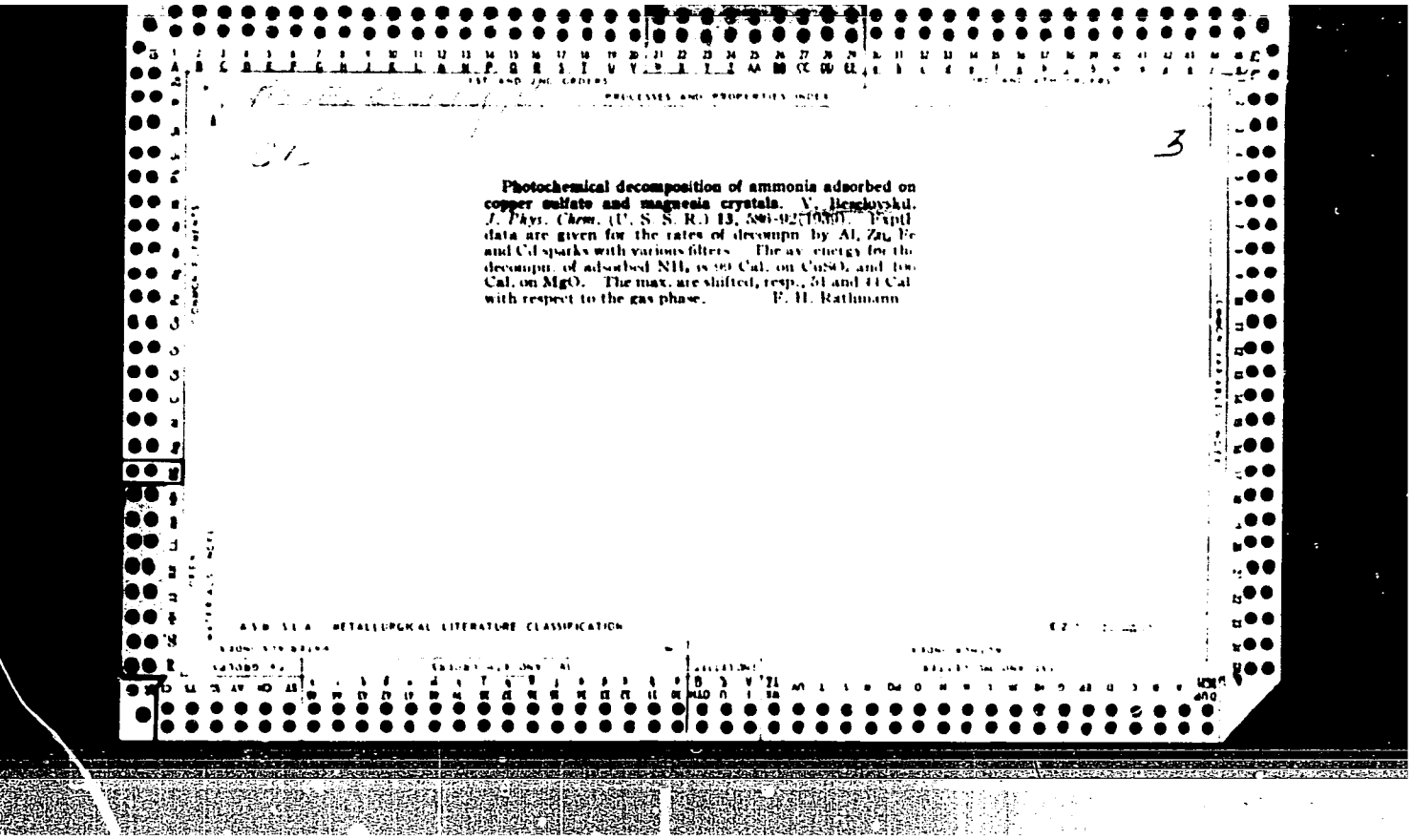
Passage of electromagnetic waves through bismuth. Dokl. AN SSSR 156 no. 2:298-299 My '64. (MIRA 17:7)

1. Fizicheskiy institut imeni Lebedeva AN SSSR. 2. Chlen-korrespondent AN SSSR (for Prokhorov).

BESELKIN, P.N.

Further notes on Pavlovian physiological principles in reorganization of the theory of regulation of respiration. Fiziol. zh. SSSR 39 no.6: 742-754 Nov-Dec 1953. (CIML 25:5)

1. Leningrad.



Photochemical decomposition of ammonia adsorbed on copper sulfate and magnesia crystals. V. Ilenkovskii. *J. Phys. Chem.* (U. S. S. R.) 13, 586-92 (1939). Exptl. data are given for the rates of decompn. by Al, Zn, Fe and Cd sparks with various filters. The av. energy for the decompn. of adsorbed NH_3 is 90 Cal. on $CuSO_4$ and 100 Cal. on MgO. The max. are shifted, resp., 51 and 41 Cal. with respect to the gas phase. F. H. Rathmann

[redacted]

[redacted], I.

Protection against pollution of our waters; also, remarks by [redacted]. Vitez and others. p. 473. KOZLEMENYEI. Budapest. Vol. 14, No. 4, 1954

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, No. 6, June 1956

BESENYOI, Istvan

Remark about the study by Laszlo Holenyi entitled "Sewage disposal problems around Lake Balaton." Hidrologiai kozlony 42 no.6:501-502 D '62.

[illegible], [illegible]; [illegible], [illegible]; [illegible], [illegible]

Effect of calcium on halogen absorption by the [illegible] of wheat and the interrelation between them. Izv. AN [illegible] SSR. Ser. biol. no.[illegible]:13-15 '64.

([illegible] 17:12)

KOSTIC, K.; MAJA, M.; BESEVIC, I.; RAKIC, D.

Clinical manifestations of incomplete rotation and mobile middle intestine in children. Acta chir. iugosl. 4 no.3:234-245 1957.

1. Klinika za decju hirurgiju Medicinskog fakulteta u Beogradu (Upravnik: prof. dr. Dim. M. Jovcic)

(MESENTERIES, abnorm.
common mesentery with incomplete rotation of intestines, manifest. (Ser))
(INTESTINES, abnorm.
incomplete rotation with common mesentery, manifest. (Ser))

KRSTIC, Klimetije; BESEVIC, Ivo; JOVANOVIC, Bora

Milkman's syndrome; report of a case in a two and half year old boy. Srpski arh. celok. lek. 87 no.2:220-226 Feb 59.

1. Decja hirurska klinika Medicinskog fakulteta u Beogradu Upravnik: pro. dr Dimitrije Jovcic. Radiolski institut Medicinskog fakulteta u Beogradu Upravnik: prof. dr Beoljub Bosnjakovic.
(BONE DISEASES, in inf. & child,
Milkman's dis. (Ser))

RAJIC, S.; BESEVIC, I.; POPOVIC, S.; RADOJKOVIC, P.; RAKIC, D.; CVETKOVIC, J.

Ilio-femoral arthrodesis in pathological luxation of the hip in childhood. Acta chir.iugosl. 7(8) no.1:42-48 '60.

1. Decja hirurska klinika Medicinskog fakulteta u Beogradu (Upravnik prof. dr D.Jovcic)
(HIP fract & disloc)

BESFAMIL'NAYA, P.S.

OVCHINNIKOV, K.M.; MOROZOVSKAYA, M.I.; TISHCHENKO, O.D.; DEMCHENKO, I.A., direktor; NADTOCHIY, S.S.; GORELYSHEVA, I.I.; BEL'SKAYA, M.K.; KONTOROVSKAYA, T.M.; BELYY, Ya.M., zaveduyushchiy; DEREVENKO, V.I.; SHEVCHUK, M.K., zaveduyushchiy; D'YACHENKO, V.I.; SAKOVICH, V.K.; AGAFONOV, I.N., zaveduyushchiy; BESFAMIL'NAYA, P.S.

Prognosis of malarial incidence of a locality and organization of antimalarial measures in the zone of the future Kakhovka reservoir. Med.paraz. i paraz.bol. no.2:109-116 Mr-Ap '53. (MLRA 6:6)

1. Ukrainskiy institut malyarii i meditsinskoy parazitologii imeni professora Rubashkina (for Demchenko). 2. Zaporozhskaya oblastnaya protivomalyariynaya stantsiya (for Belyy). 3. Dnepropetrovskaya oblastnaya protivomalyariynaya stantsiya (for Shevchuk). 4. Khersonskaya oblastnaya protivomalyariynaya stantsiya (for Agafonov).

(Kakhovka reservoir region--Malarial fever)
(Malarial fever--Kakhovka reservoir region)

BESFAMIL'NAYA, P.S.

MOROZOVSKAYA, M.I.; TISHCHENKO, O.D.; DEMCHENKO, I.A.; GORELYSHEVA, I.I.; BEL'SKAYA, M.K.; YEVLAKHOVA, V.F.; AGAFONOV, I.N.; BESFAMIL'NAYA, P.S.; CHERNENKO, Yu.P.

Antimalarial measures in the construction zone of the Kakhovka Hydroelectric Power Station. Med.paraz.i paraz.bol. no.1:61-66 Ja-Mr '54. (MLRA 7:3)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta malyarii i meditsinskoy parazitologii im. professora V.Ya.Rubashkina (direktor instituta I.V.Demchenko) i Khersonskoy oblastnoy protivomalyariynoy stantsii (zaveduyushchiy stantsiyey I.A.Agafonov).
(Kakhovka region--Malarial fever)
(Malarial fever--Kakhovka region)

MOROZOVSKAYA, M.I.; DEMCHENKO, I.A. TISHCHENKO, O.D.; GORELYSHEVA, I.I.; YEVLAKHOVA, V.F.; NADTOCHKIY, S.S.; GAL'PERIN, L.Yu; BELYY, Ya.M.; LAZEBNYY, N.V.; DEREVENKO, V.I.; SERVINENKO, G.A.; SHEVCHUK, M.K.; D'YACHENKO, V.I.; AGAFONOV, N.I.; BESFAMIL'NAYA, P.S., CHERNENKO, Yu.L.

Preventive antimalaria measures for lumberjacks employed in clearing the bed of the future Kakhovka Reservoir. Med.paraz. i paraz.bol.24 no.3:207-208 Jl-S '55. (MLRA 8:12)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta malyarii i meditsinskoy parazitologii imeni prof. V. Ya. Rubashkina (dir. instituta I.S.Demchenko) i Zaporozhskoy, Dnepropetrovskoy i Khersonskoy oblastnykh protivomalyariynykh stantsiy.
(MALARIA, prevention and control,
in Russia, in forest workers)

ROZENG[illegible], M.Sh.; [illegible]FAMIL'NAYA, R.M.; LYUDVINSKIY, V.P.

Hydrogen sulfide contamination of Khadzhibey and Tiligul limans. Gidrobiol.zhur. 1 no.5:9-14 '65.

(MIRA 18:11)

[illegible]. Odesskoye otdeleniye Instituta biologii yuzhnykh morey AN UkrSSR.

L 20285-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/AEDC(a)/SSD/AFWL/RAEM(c)/RAEM(j)/ESD(gs)
ESD(t) JD
ACCESSION NR: AP5000695 S/0181/64/006/012/3745/3747

AUTHOR: Besfemil'naya, V. A.; Ostroborodova, V. V.

TITLE: Recombination properties of shallow levels of gold and copper in p-type germanium, determined from the noise spectrum

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3745-3747

TOPIC TAGS: recombination, noise spectrum, donor level, acceptor level, germanium, carrier lifetime

ABSTRACT: The hole-capture cross sections of the donor level of gold (σ_p^0) and the first acceptor level of copper (σ_p^-) were determined at 20--30K from the generation-recombination noise spectrum of p-type germanium. The donor level of gold was partly compensated by gallium during the pulling process; copper was introduced by diffusion into high-resistance n-type samples. The concentrations of the gold and copper were (2--9) x 10^{14} and 1.8 x 10^{15} cm^{-3}, respectively. The recombination center concentrations were N_{Au}^0 = (0.06--13) x 10^{14} cm^{-3} and N_{Cu}^- = 0.58 x 10^{14} cm^{-3}. Before and after deposition of the indium contacts, the samples were etched in hydrogen peroxide and washed in distilled water. The

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Fermi level was close to the investigated levels and therefore simple noise spectra were obtained. The noise emf was measured in the range 3×10^2--10^6 cps using the following apparatus: (1) 3×10^2 -- 5×10^4 cps range -- a low-noise preamplifier, a type 28-IM amplifier, and a type S-4-7 analyzer with a pass band $\Delta f = 8\%$; (2) 3×10^4--10^6 cps range -- a U-3-7 type amplifier and a selected type V6-1 microvoltmeter with $\Delta f = 10^4$ cps. The system was calibrated with a standard noise generator (type G2-1). The measurements were carried out in helium cryostats. The absolute value of the noise emf was in the range 10^{-6}--10^{-8} V, and depended on temperature, degree of compensation and current through sample. The hole lifetime τ was found from the noise emf and the cross sections were deduced from $\sigma = 1/N_p \tau$. The average values of the cross sections at 24K were $\sigma_p^0 = (1\text{--}2) \times 10^{-14}$ cm^2 and $\sigma_p^- = 1 \times 10^{-13}$ cm^2. This difference may be due entirely to the difference between the charge states of the centers. Orig. art. has: 2 figures, 1 table, and 1 formula.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 18Jul64 ENCL: 00

SUB CODE: SS NR REF SOV: 002 OTHER: 005

Card 2/2

L 64773-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD

ACCESSION NR: AP5016550 UR/0056/65/048/006/1588/1593

AUTHORS: Besfamil'naya, V.A.; Kurova, I.A.; Ormont, N.N.; Ostroborodova, V.V.

TITLE: Oscillations in the impurity conductivity spectra of germanium

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 6, 1965, 1588-1593

TOPIC TAGS: germanium, impurity conductivity, photoconductivity, spectrum analysis

ABSTRACT: This is a continuation of earlier studies and experiments by the authors (FTT v. 6, 3708, 1964) and by others, and its purpose was to examine in greater detail the oscillations of the impurity photoconductivity spectra of p-type germanium. The experiments were carried out at 8--14K on samples with partly compensated levels of

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ACCESSION NR: AP5016550

copper at 0.041 eV, of gold at 0.041 eV, of zinc at 0.03 eV, and of cadmium at 0.05 eV. The study included comparison of the photoconductivity and absorption spectra, comparison of the photoconductivity spectra of samples having different concentrations of impurity centers, recombination centers, and scattering centers, and investigation of the effect in crystals containing different impurities. Phosphorus, gallium, and antimony were used for counter-alloying. The impurity concentration, the number of recombination and scattering centers, and the carrier mobility and its temperature dependence were determined from measurements of the Hall coefficient and the electric resistivity in the temperature range 300--6K. It was found that the depth of oscillations was different for different samples, and that in some cases there were no oscillations at all. No oscillation effect was observed in the absorption spectra. The oscillation depth of the photoconductivity spectra was compared with the photoelectric properties of the samples. A correlation was found between the relative depth of oscillations and the recombination-center

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concentration. The "cold" hole lifetimes, oscillations of which were observed in the photoconductivity spectra, were determined from values of the cross sections for the capture of holes by impurity levels, taken from published data and also obtained in the present work from the noise spectrum. "We thank S.V. Ivanova for making the hole measurements, and V.I. Bonch-Bruyevich and V.S. Vavilov for a discussion of the results." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 18Jan65 ENCL: 00 SUB CODE: SS

NR REF SOV: 006 OTHER: 008

Card 3/3 KC

BESFAMIL'NAYA, Z. I., Physician

"Shoulder Blade Gunshot Wounds." Sub 5 May 47, Second Moscow State Medical Inst imeni I. V. Stalin

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

BESFAMIL'NAYA, Z.I.

Generalized actinomycosis. Khirurgiia, Moskva no. 12:45-53 Dec 1952. (CIML 23:3)

1. Candidate Medical Sciences. 2. Of the Clinic of Hospital Surgery (Director — Honored Worker in Science Prof. V. S. Levit) of the Therapeutic Faculty of Second Moscow Medical Institute imeni I. V. Stalin.

BESFAMIL'NAYA, Z.I., kandidat meditsinskikh nauk

Errors in clinical diagnosis of acute appendicitis. Khirurgiia no.10:42-46 O '54. (MLRA 8:1)

1. Iz kliniki gospital'noy khirurgii (zav.-prof. V.S.Mayat) lechebnogo fakul'teta II Moskovskogo med. inst. imeni I.V.Stalina.
(APPENDICITIS, diagnosis
acute, errors)

BESFAMIL'NAYA, Z.I., dotsent

Appendicitis in the aged. Sov.med.19 no.10:63-68 O '55.
(MLRA 8:12)

1. Iz kliniki gospital'noy khirurgii lechebnogo fakul'teta (zav.--prof. V.S.Mayat) IIMoskovskogo meditsinskogo instituta imeni I.V.Stalina)
(APPENDICITIS, in aged)
(AGED, diseases)

BESPAMIL'NAYA, Z.I., dotsent; SELEDEVKINA, T.A.

Primary sarcoma of the stomach. Khirurgiia 32 no.6:13-16 Je '56.
(MLRA 9:10)

1. Iz kliniki khirurgii (zav. - prof. V.S.Mayat) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni I.V.Stalina

(SARCOMA
stomach, pathol. classif.)
(STOMACH, NEOPLASMS
sarcoma, pathol. classif.)

BESFAMIL'NAYA, Z.I., kandidat meditsinskikh nauk (Moskva, 49-V, Bol'shaya Yakimanka, d.40, kv.18)

Correlation of clinical and anatomic factors in acute appendicitis [with summary in English, p.159] Vest.khir. 77 no.8:76-79 Ag '56. (MLRA 9:10)

1. Iz gospital'noy khirurgicheskoy kliniki lechebnogo fakul'teta (zav. - prof. V.S.Mayat) 2-go Moskovskogo meditsinskogo instituta im. I.V.Stalina

(APPENDICITIS
acute, diag. & classif.)

L 41604-65 EWT(m)/EWP(j) Pc-4 RM S/0081/64/000/022/S039/S039

ACCESSION NR: AR5005643

SOURCE: Ref. zh. Khimiya, Abs. 22S234

AUTHOR: Kotrelev, V.N.; Kostryukova, T.D.; Besfamil'nyy, I.B.; Tarasov, V.V.

TITLE: The properties, processing and use of polycarbonates

CITED SOURCE: Sb. Primeneniye plast. mass v mashinostr. i priborostr. Minsk, 1964, 163-172

TOPIC TAGS: polycarbonate synthesis, polycarbonate mechanical property, polycarbonate working, radio part manufacture, phosgene, transesterification, diphenyl carbonate/ Diflon polycarbonate

TRANSLATION: The "Diflon" brand of polycarbonate can be obtained by the direct reaction of dihydroxy compounds with phosgene or by the transesterification of diphenyl carbonate with diphenylolpropane. Diflon has a molecular weight of up to 200,000, a specific gravity of 1.2, a density in dry granular form of 650 g/liter, and a processing temperature interval of 220-320C. The specific impact toughness of Diflon is 400-500 kg-cm/cm^2; the tensile, compressive and bending strength are 600-700, 800-900 and

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ACCESSION NR: AR5005643

1000-1100 kg/cm^2, respectively; and the Martens heat resistance is 135-140C. Diflon does not show cold fluidity and can be used in the temperature range from -100 to +130C; it is a self-quenching, chemically stable material. Diflon can be worked on casting machines (casting pressures of 1500-2200 kg/cm^2) or extruders, and can also be subjected to mechanical processing. Diflon is recommended for use in the manufacture of construction parts and the parts of electrical and radio equipment. Z. Ivanova

ENCL: 00 SUB CODE: MT, OC

Card 2/2

BESFAMIL'NYY, I.D.; GOLOVANOV, A.D.

Contact busbar duct. Rats. predl. na gor. elektrotransp. no.9: 67-68 '64. (MIRA 18:2)

1. Trest "Moselektrotrans".

BESFAMIL'NYY, N.V., inzh.

Mechanization of the winding of the brushes of snow removal machines. Stroi. i dor mash. 7 no.6:27-28 Je '62. (MIRA 15:7)
(Snow removal—Equipment and supplies)

BESFAMIL'NYY, N. V., inzh.

The D-307A snow plow. Stroi. i dor. mash. 7 no.11:22-24 N '62. (MIRA 16:1)

(Snow plows)

GUPALO, Yu. V.; BESH, M.G.

Improving working conditions for medical personnel in stomatological clinics. Gig. i san. 23 no.12:79 D '58. (MIRA 12:1)
(MERCURY--TOXICOLOGY)

BESHAGIN, S.P.

Gas pressure stabilization in the manufacture of electric vacuum equipment. Gaz. prom. no.6:24-29 Je '58. (MIRA 11:6)
(Pressure regulators)

PHASE I BOOK EXPLOITATION SOV/4507

Beshagin, Sergey Pavlovich

Ognevoye osnashcheniye tekhnologicheskogo oborudovaniya elektrovakuumnogo proizvodstva (Heat Working Equipment and Installations for Electric Vacuum Device Production Plant) Moscow, Gosenergoizdat, 1960. 255 p. 7,000 copies printed.

Ed.: V.A. Golubev; Tech. Ed.: N.I. Borunov.

PURPOSE: This book is intended for workers in the electric vacuum device industry or engaged in the manufacture of related products. It may be used as a textbook by students specializing in power engineering in schools of higher education and tekhnikums.

COVERAGE: This production and technical manual gives material necessary for the design and proper operation of technical equipment for heat working glass parts and electric vacuum device units. The characteristics of gases most used at electric vacuum device factories are discussed, as well as problems in the stabilization of gas parameters, the automatic control of the pressure and calorific value of a

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combustible mixture, and equipment for burning gases. Data are given for the design of heat working equipment and its individual elements, and assembly and operation instructions. Much attention has been given to mixing units and burners, and to safety engineering in working with gases. The book presents the results of studies in the field by scientific research establishments and factories. Liberal use has been made of material provided by the following staff members of NII GKRE (Nauchno-issledovatel'skiy institut gosudarstvennogo komiteta po radioelektronike - Scientific Research Institute of the State Committee on Radio and Electronics): V.S. Koshelev, T.M. Marchuk, I.S. Zafranskiy, S.P. Beshagin, A.P. Chibizova, N.P. Panova, V.D. Volchkova, I.F. Gvozdyuk, N.V. Tomnikova. There are 38 references: 37 Soviet and 1 English.

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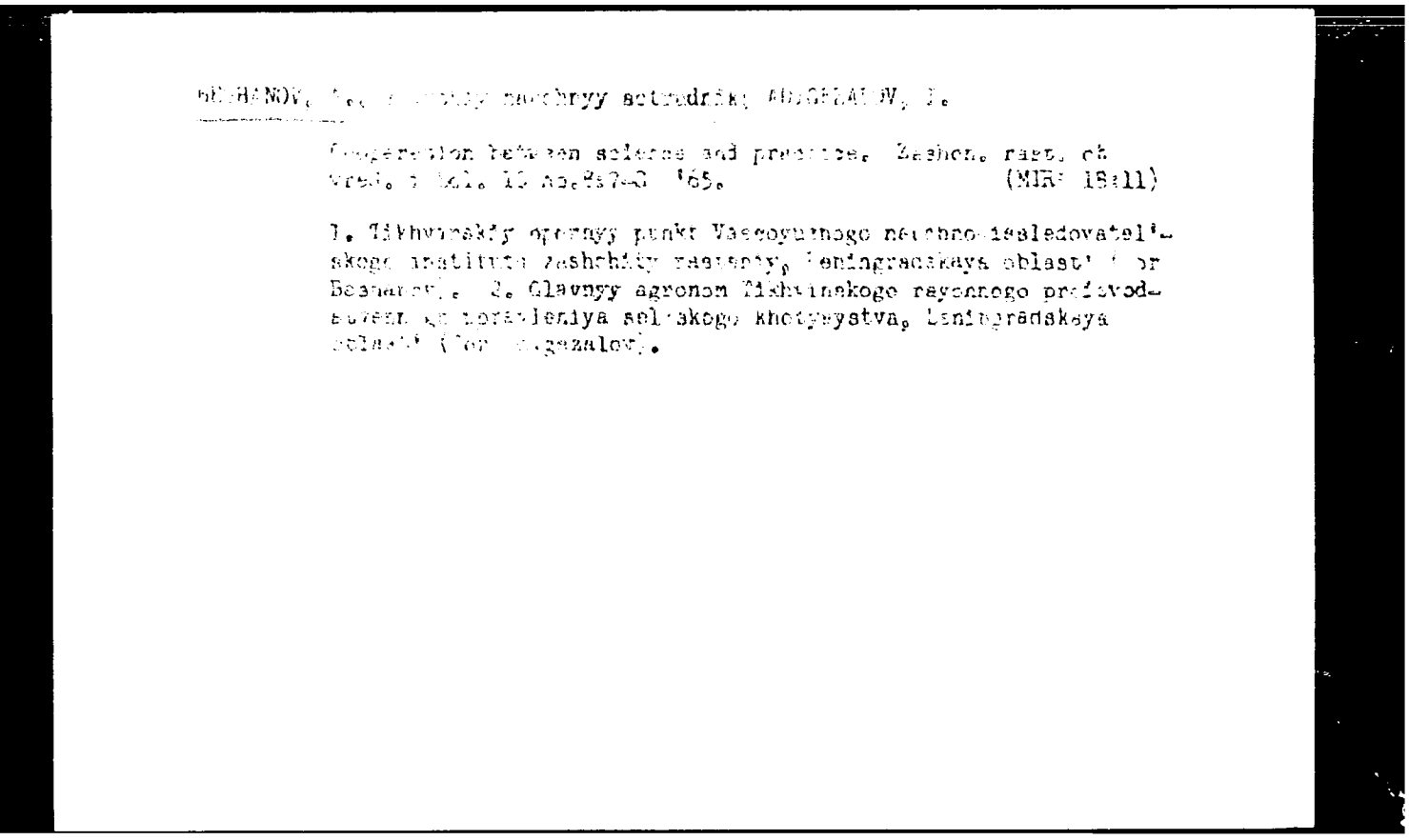

USSR / Weeds and Weed Control. N

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1932

Author : Beshanov, A. V.
Inst : Not given
Title : An Experiment on Eradicating Quarantine Weeds of Ambrosia trifida

Orig Pub : S.-kh. Povolzh'ya, 1958, No 1, 52-54

Abstract : At "Krasny" Sovkhoz in Kuybyshevskaya Oblast' grain sowings were treated with 2,4-D from an airplane. Twofold treatment against Ambrosia trifida was one hundred percent effective. Dosages of the preparation were 1.8 and 1.5 kg/hectare. The cost of the plane spraying was 55 rubles per hectare. -- L. D. Stonov

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BESHANOV, A. V.

Cand Agr Sci - (diss) "Chemical agents in combating weeds in sowings of table beets, ciboule (Allium fistulosum), and potatoes." Pushkin, 1961. 21 pp; (Ministry of Agriculture, Leningrad Agri Inst); 150 copies; free; list of author's works at end of text; (KL, 10-61 sup, 221)

SHKLYAR, M.Z.; VOYEVODIN, A.V.; BESHANOV, A.V.

Effect of herbicides on soil microflora when applied before the emergence of cultivated plants. Agrobiologiia no.2:222-225 Mr-Ap '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii, Leningrad.
(Soil micro-organisms)
(Herbicides)

VOYEVODIN, A.V.; BESHANOV, A.V.; KHOTYANOVICH, A.V.

Testing granulated herbicides. Zashch. rast. ot vred. i bol. 6 no.4:18-19 Ap '61. (MIRA 15:6)
(Herbicides)

BESHAR, A.M.; ZARZAR, A.S.

Selection of an obturator for opening a gastric fistula. Med. zhur. Uzb. no. 1:59 Ja '60. (MIRA 13:8)

1. Iz kliniki khirurgii detskogo vozrasta (zav. - dotsent K.Kh. Tagirov) Tashkentskogo gosudarstvennogo meditsinskogo instituta.
(FISTULA) (MEDICAL INSTRUMENTS AND APPAPATUS)

NESMEYANOV, A.N., akademik; ANISIMOV, K.N.; KOLOBOVA, N.Ye.; BESHCHASTNOV, A.S.

Binuclear derivatives of the carbonyls of molybdenum, manganese, and rhenium. Dokl. AN SSSR 159 no.2:377-378 N '64.
(MIRA 17:12)

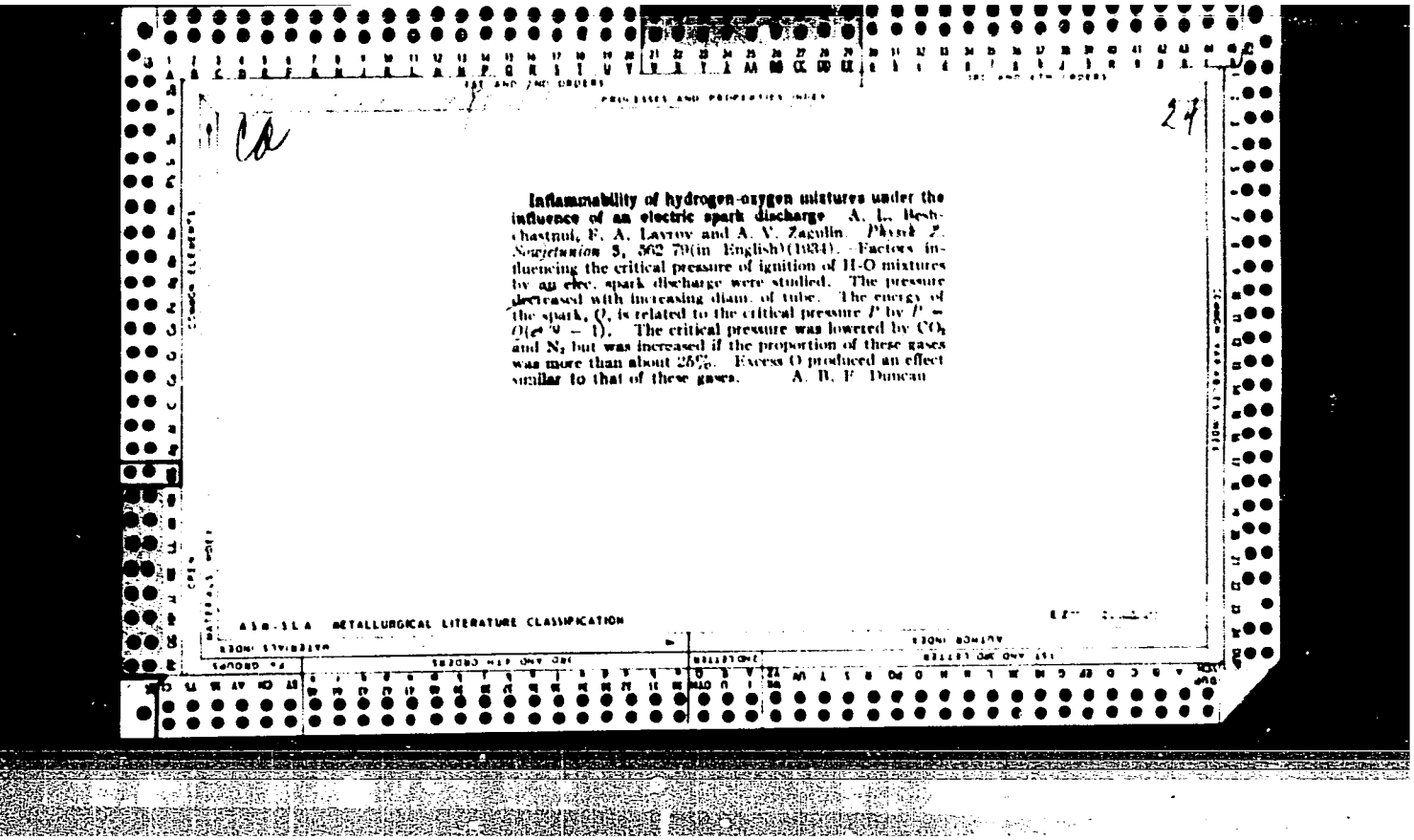
1. Institut elementoorganicheskikh soyedineniy AN SSSR.

BESHCHASTNOV, R. V.

Beshchastnov, R. V.

"Approximate bobbin gearing for large-volume transmission." Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1956. (Dissertation for the degree of Candidate in Technical Sciences)

Knizhnaya letopis'
No. 35, 1956. Moscow



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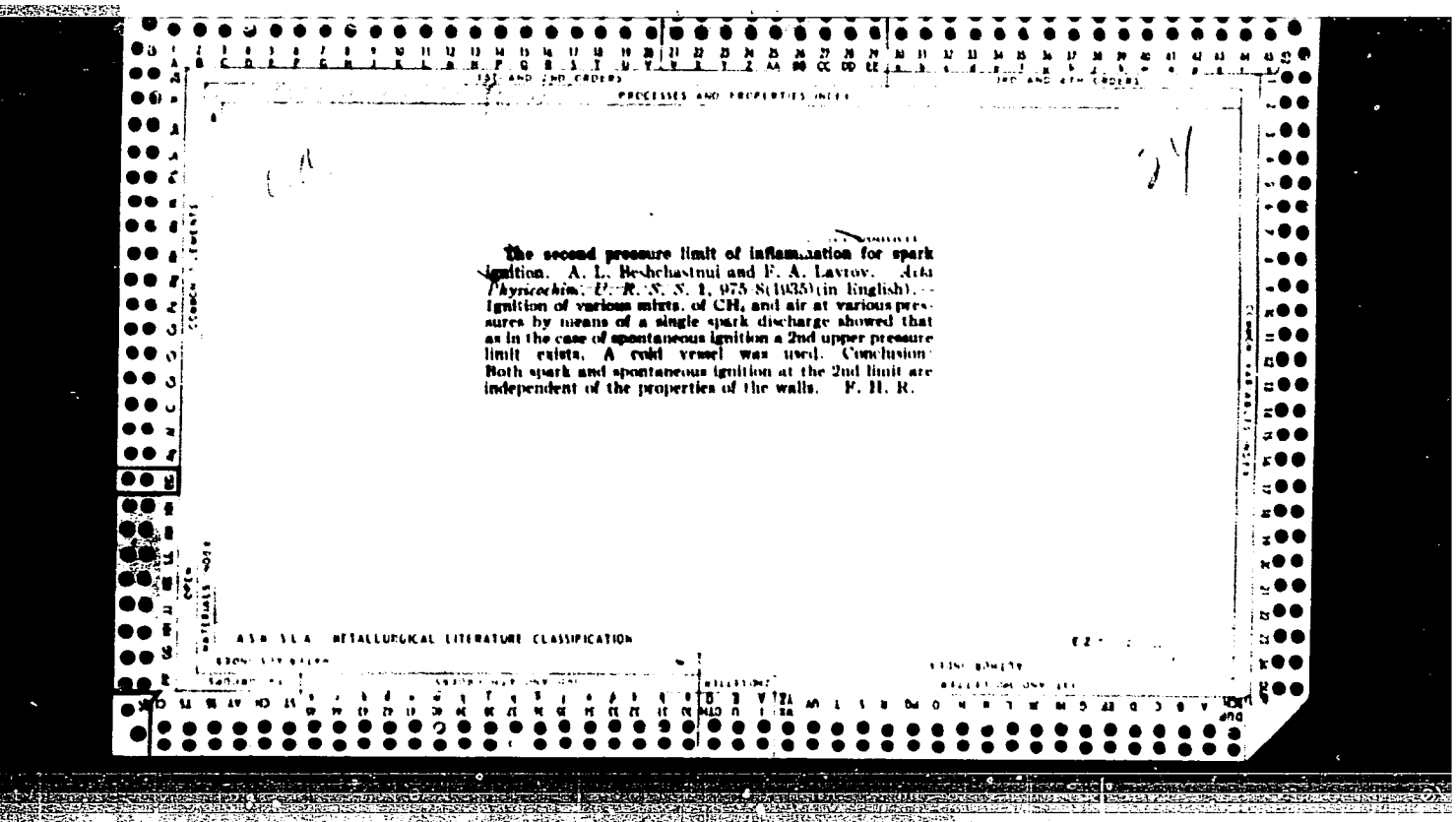
Inflammability of hydrogen-oxygen mixtures under the influence of an electric spark discharge. A. L. Beshchastnui, F. A. Lavrov and A. V. Zaculin. *Physik. Z. Sowjetunion* 5, 362-79(in English)(1934). Factors influencing the critical pressure of ignition of H-O mixtures by an elec. spark discharge were studied. The pressure decreased with increasing diam. of tube. The energy of the spark, Q, is related to the critical pressure P by $P = O(e^{Q} - 1)$. The critical pressure was lowered by CO_2 and N_2 but was increased if the proportion of these gases was more than about 25%. Excess O produced an effect similar to that of these gases. A. B. F. Duncan

A 38-51 A METALLURGICAL LITERATURE CLASSIFICATION



The second pressure limit of inflammation for spark ignition. A. L. Beshchastnui and F. A. Lavrov. *Acta Physicochim. U.R.S.S.* 1, 975-8(1935)(in English).—Ignition of various mixts. of CH_4 and air at various pressures by means of a single spark discharge showed that as in the case of spontaneous ignition a 2nd upper pressure limit exists. A cold vessel was used. Conclusion: Both spark and spontaneous ignition at the 2nd limit are independent of the properties of the walls. F. H. R.

L 26008-66 EWP(e)/EWT(m) WH/GS

ACC NR: AT6013441 (N,A) SOURCE CODE: UR/0000/65/000/000/0068/0074

AUTHOR: Bescharov, Ye. N.

ORG: Kharkov Polytechnic Institute (Khar'kovskiy politekhnicheskiy institut)

TITLE: The effect of a ceramic coating on the thermal state of the piston of a diesel locomotive engine

SOURCE: Dvigateli vnutrennego sgoraniya (Internal combustion engines), no. 1. Kharkov, Izd-vo Khar'k. univ., 1965, 68-74

TOPIC TAGS: piston engine, engine piston, temperature, diesel engine, heat transfer, heat balance, heat loss, ceramic coating, ChN 24/27 diesel engine

ABSTRACT: A method for calculating the temperatures and heat fluxes in a piston with a ceramic coating (when the temperature of the uncoated piston is known) is discussed. Standard working formulas are derived for: the resultant temperature T_g of the gas in the cylinder

$$T_g = \frac{\int_0^{\tau_0} \alpha_g T d\tau}{\int_0^{\tau_0} \alpha_g d\tau} = \frac{(\alpha_g T)_{av}}{(\alpha_g)_{av}}$$

where T is the variable gas temperature in the cylinder and α_g is the gas-to-wall heat

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ACC NR: AT6013441

transfer coefficient; the thermal resistance of the piston sleeve; the heat flux from the friction of the piston rings. A calculation for the piston of the ChN 24/27 diesel locomotive engine showed that, to reduce considerably the piston temperatures and heat fluxes, coatings with a coefficient of thermal conductivity $\lambda < 0.5$ kcal/m·hr·deg must be used (see Fig. 1).

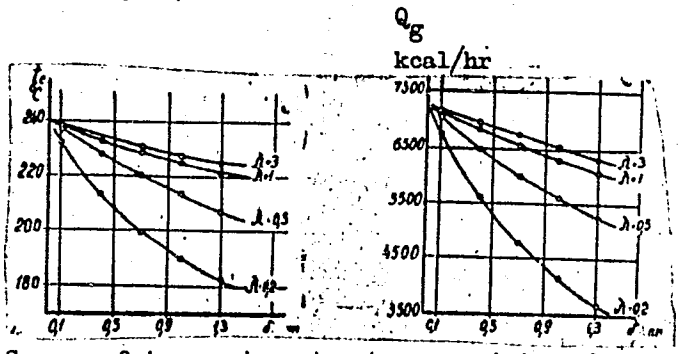

Fig. 1. Curves of temperature t_0 at upper piston ring groove and heat flux Q_g to bottom of piston versus thickness δ of ceramic coating.

Orig. art. has: 13 formulas, 2 graphs, and 1 diagram.

SUB CODE: 21/ SUBM DATE: 20Apr65/ ORIG REF: 009

L 20139-66 EWT(d)/EWT(l) GW/BC
ACC NR: AP6006365 (A) SOURCE CODE: UR/0413/66/000/002/0097/0098

AUTHOR: Beschasnyy, G. K.

ORG: none

TITLE: Double image altimeter. Class 42, No. 179117 [announced by All-Union Scientific Research Institute of Terrain Mechanics and Surveying Problems (Vsesoyuznyy nauchno-issledovatel'skiy institut gornoy mekhaniki i marksheyderskogo dela)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 97-98

TOPIC TAGS: altimeter, rangefinder, rangefinding, surveying, mapping

ABSTRACT: This Author Certificate presents a dual-image altimeter in the form of an objective fitting with afocal altimeter lenses set at the end of a freely suspended horizontal base. The horizontal base contains two movable units, one of which (the basic unit) holds its horizontal position regardless of the angle of the scope tube, and the other (the correcting unit) is balanced relative to its axes of rotation and carries the altimeter lenses. Automatic correction of the value of translation of the altimeter lenses with the optical axis of the objective is

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UDC: 528.531

achieved through a lever welded on the correcting unit (see Fig. 1).

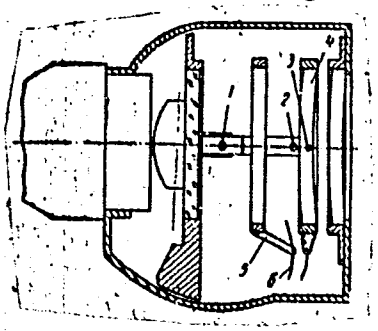

Fig. 1. 1 and 2 - basic units of the horizontal base; 2 and 3 correcting unit of the base; 4 - altimeter lenses; 5 - lever of correcting unit; 6 - directional curvilinear groove.

The end of this lever is set in a directional curvilinear groove on the accessory fitting. Orig. art. has: 1 figure.

SUB CODE: 13,08/ SUBM DATE: 11Dec64

Card 2/2

BESHCHEV, B.

Novyi grafik dvizheniia pcezdov. [The new schedule for train movement].
(Zhel-dor. transport, 1947, no. 5, p. 3-10). DLC: HE7.Z5

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

BESHCHEV, P.F.

25767 Beshchev, P.F. Na Magistralyakh Velikoy Sovetskoy Derzhavy. (Beseda Ministra Putey Soobshcheniya SSSR. P. F. Beshcheva S Kor. "Ogon'ka"). --S Portr. Avtora. Ogonek, 1948, No. 31, S. 2-3.

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948.

KHRUSHCHEV, N.S.; KAGANOVICH, L.M.; SHVERNIK, N.M.; PERVUKHIN, M.G.; ZASYAD'KO, A.F.; TEVOSYAN, I.F.; MALYSHEV, V.A.; BAYBAKOV, N.K.; BESHCHEV, B.P.; KUZ'MICH, A.S.; MEL'NIKOV, L.G.; GRAFOV, L.Ye.; ZADEMIDKO, A.N.; MEL'NIKOV, M.V.; LALAYANTS, A.M.; KOVALEV, I.V.; POCHENKOV, K.I.; BARABANOV, F.A.; KRASNIKOVSKIY, G.V.; MINDELI, E.O.; ROSSOCHINSKIY, I.Ya.

Egor Trofimovich Abakumov; obituary. Mast.ugl.2 no.11:30 N '53. (MLRA 6:11)

(Abakumov, Egor Trofimovich, 1895-1953)