"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

109-2-1-9/17

Directional Coupler for H_{01} Wave in a Round Cross-Section Waveguide

There are 9 figures, 1 table, and 7 references, 4 of which are Soviet, in the article.

SUBMITTED: September 18, 1956

AVAILABLE: Library of Congress

1. Waveguide couplers--Mathematical analysis 2. Waveguide couplers --Design 3. Microwaves--Separation

Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

[illegible], M. V.

"Controlled Wave Deflector for the Wave H_{01} in a wave Guide with a round cross Section."

Dissertation presented for the Degree of Cand. of Tech. Sci. at the Inst. of RadioEngineering and Electronics

Jan- July 1957 Section of Tech. Sci.
Vest. AN SSSR, 1957, No. 12, v. 27, pp. 122-123

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

SHIRMAN, Yakov Davidovich; KATSENELENBAUM, B.Z., kand.tekhn.nauk, retsenzent; DOMBROVSKIY, I.A., kand.tekhn.nauk, retsenzent; PERSIKOV, M.V., kand.tekhn.nauk, otv.red.; NOVIKOVA, Ye.S., red.; KARABILOVA, S.F., tekhn.red.

[Radio wave guides and cavity resonators] Radiovolnovody i ob"emnye rezonatory. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1959. 378 p. (MIRA 12:4)
(Wave guides)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

26432
S/106/60/000/005/006/009
A055/A133

9,1300

AUTHORS: Persikov, M. V.; Kazantsev, Yu. N.; Kozelev, A. I.

TITLE: Field indicator for circular waveguides

PERIODICAL: Elektrosvyaz', no. 5, 1960, 38-44

TEXT: For a complete study of wave propagation in waveguides with a circular cross-section the perimeter of which is considerably greater than the wavelength, it is necessary to measure the structure of the field not only along the propagation axis, but also in the waveguide cross-section. A field indicator specially designed for such measurements is described in the present article. When waves of different types with different polarization are propagating in a circular waveguide, the longitudinal slot, generally used for measuring the field structure along the propagation axis, cannot be cut without bringing about a considerable distortion of the obtained picture of the field. This difficulty is overcome as follows in the described system: into the circular waveguide a section of another waveguide is inserted, on which the coupling element with the detector-head of the indicator is placed. This section can be moved along axis z and also rotate around this axis. Such a device allows to record distribution

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A055/A133

Field indicator for circular waveguides

curves of the electric or the magnetic component of the field near the surface of the metal. The distribution of the longitudinal component (H_z) or of the angular component (H_φ) of the magnetic field in the waveguide cross-section allows one to determine the wave type propagating in the waveguide. A standard rectangular waveguide is used as the measuring channel, which is in contact with the circular waveguide along the narrow side, parallel to the lines of force of the electric field of the H_{10} wave. The coupling element between the two waveguides is a round aperture. To determine the power relation between the waves propagating in the waveguide, it is necessary to know the coupling factor of the rectangular waveguide with the circular waveguide for each wave-type. When coupling is ensured through the narrow wall of the rectangular waveguide (parallel to the electric field vector of wave H_{10}), this factor is:

$$k_c = 10 \lg \left[\frac{8\pi}{9} F_{nm} \frac{\rho^6 e^{-2|\gamma_{ap}|\tau}}{a^3 b R^2 \sqrt{1 - \left(\frac{\lambda}{2a}\right)^2}} \right] \text{db}, \qquad (1)$$

where ρ is the coupling aperture radius; τ is the thickness of the wall between waveguides; $e^{-2|\gamma_{ap}|\tau}$ is a factor taking into account the influence of the wall-thickness on the coupling between waveguides (in the case of coupling by

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A055/A133

Field indicator for [illegible] waveguides

the magnetic component of the field. $\gamma_{ap} = \sqrt{\left(\frac{2\pi}{\lambda}\right)^2 - \left(\frac{1.84}{\ }\right)^2}$); a and b are respectively the dimensions of the wide and the narrow side of the rectangular waveguide; R is the radius of the circular waveguide, and λ is the wavelength in free space. The factor F_{nm} characterizes the dependence of the coupling factor on the field distribution in the cross-section. For magnetic waves (H_{nm}) and with coupling by the longitudinal component of the magnetic field (H_z):

$$F_{nm} = \frac{\mu_{nm}^4 \epsilon_n^2 \cos^2 n\varphi}{(\mu_{nm}^2 - n^2)\sqrt{1-\left(\frac{\mu_{nm}\lambda}{2\pi R}\right)^2}} \left(\frac{\lambda}{2\pi R}\right)^2; \qquad (2)$$

For magnetic waves and with coupling by the transverse component of the magnetic field (H_φ):

$$F_{nm} = \frac{\epsilon_n^2 n^2 \sqrt{1-\left(\frac{\mu_{nm}\lambda}{2\pi R}\right)^2} \sin^2 n\varphi}{\mu_{nm}^2 - n^2}; \qquad (3)$$

For electric waves (E_{nm}):

$$F_{nm} = \frac{\epsilon_n^2 \cos^2 n\varphi}{\sqrt{1-\left(\frac{\mu_{nm}\lambda}{2\pi R}\right)^2}}. \qquad (4)$$

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A055/A133

Field indicator for circular waveguides

In these formulae, α_{nm} and β_{nm} are the roots of equations $J_n'(x) = 0$ and $J_n(x)=0$ respectively; n and m are positive integers characterizing the wave-type; $\varepsilon_n = 1$ for n = 0 and $\varepsilon_n = 2$ for n > 0; [illegible] is the angle characterizing the orientation of the aperture with respect to the field in the waveguide. The described device (the resonator is here a test section of a standard rectangular waveguide with two trimming plungers) is intended to operate as an indicator of the purity of the field of any type of wave in the circular waveguide and in the measuring channel the distribution curve of H_z or of H_φ near the waveguide surface is recorded to check the field purity. The recording of these curves can be rendered auto[illegible]. In this case the field indicator rotates with the aid of a motor with friction gear lowering the rotation speed to 30 rpm. A detector is connected to the [illegible]-receiving device through a spring-contact. A linear potentiometer which is the oscillograph sweep voltage pickup is fastened on the fixed disk and coupled to the rotating reentrant section by the gear wheel. Standard devices are operating in the other units of the system: an amplifier, a 13LO-36 (13LO-36) cathode-ray oscillograph and a rectifier. In the last part of the article, the authors reproduce some experimental results obtained with the described indicator and draw the following conclusions: The indicator allows to determine the field distribution in the waveguide cross-section(near its

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A055/A133

Field indicator for circular waveguides

metal surface) in systems with one or several types of propagating waves. Using, then, the harmonic analysis method, it is possible to determine the type of the propagating waves if their number does not exceed six - eight. Owing to the field indicator, it is also possible to measure the reflection coefficient (reflection on discontinuities); the level of parasitic wave-types must be here 30 - 40 db below the level of the working wave. There are 7 figures, 1 table and 4 Soviet-bloc references.

SUBMITTED: January 6, 1960

[Abstracter's note: One subscript is translated in the text: "ap" (aperture) stands for "omb"]

Card 5/5

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

21661

9.1300 (9150 1130)

S/109/61/006/003/016/018
E140/E135

AUTHOR: Persikov, M.V.

TITLE: H_{02}-Wave Filter in Round Waveguide

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol.6, No. 3, pp. 444-445

TEXT: The wave filter described in this brief note employs the principle of transforming the H_{02}-wave into unsymmetrical waves by means of a barrier in the waveguide (Fig.1), (in Fig.1, 1 is the transformer, 2 a metal plate, 3 the ring filter) and then suppressing the unsymmetrical wave by a ring filter section. The barrier for transforming the wave is pierced by narrow slots to prevent a similar transformation of the desired H_{02}-wave. In a particular realization in a 25 mm waveguide the difference in radii $R - R_1$ (Fig.1) was 0.5 mm, length 150 mm, ring filter length 150 mm. In a 5% band at 8 mm the wave losses to the H_{02}-wave were 7-8 dB, to the H_{01}-wave only 0.14 dB. There are 2 figures and 5 references: 2 Soviet and 3 non-Soviet.

SUBMITTED: April 9, 1960

~~Card 1/2~~

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

21662

9,1300 (also 1130)

S/109/61/006/003/017/018
E140/E135

AUTHOR: Persikov, M.V.

TITLE: On the Excitation of the H_{01}-Wave in a Circular Waveguide

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol.6, No.3, pp. 446-447

TEXT: This note presents a variation of P. Marié's $H_{10}^{\square} \rightarrow H_{01}^{\bigcirc}$ transformer (P. Marié, Transitions Créant le Mode TE_{01} Circulaire a Partir du Mode TE_{01} Rectanglaire, Onde électr., Communications presentées au Congrès International des Circuits et Antennas Hyperfrequences, Paris, 1957, 2, 471 - Ref.3) for the purpose of making the fabrication of the required profile easier. The improvement concerns the central section (g, h, i in Fig.1), as shown in Fig.2.
There are 3 figures and 3 references: 2 Soviet and 1 French.
Acknowledgements are expressed to P. Marié and Yu.I. Kaznacheyev for their assistance.
SUBMITTED: April 19, 1960

~~Card 1/4~~

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

KUZ'MIN, N.A.; PERSIKOV, M.V.

Symposium on electromagnetic theory and antennas. Vest. AN SSSR 32 no.12:79-80 D '62. (MIRA 15:12)
(Antennas (Electronics)—Congresses)
(Electromagnetic theory—Congresses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIKOV, M.V., kand. tekhn. nauk

Symposium and Conference on Telecommunication. Vest. AN SSSR 34 no.5:130 My '64. (MIRA 17:6)

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L 60874-65 EWT(1)/EEC-4/EWA(h)

ACCESSION NR: AP5017658 UR/0109/65/010/007/1226/1232

621.372.823.09

25

B

AUTHOR: Kotik, I. P.; Meriakri, V. V.; Persikov, M. V.; Sivov, A. N.

TITLE: Theoretical analysis and some applications of circular waveguides with longitudinal slots

25

SOURCE: Radiotekhnika i elektronika, v. 10, no. 7, 1965, 1226-1232

TOPIC TAGS: waveguide, circular waveguide, wave filter, energy coupler, directional coupler, attenuator

ABSTRACT: Symmetrical wave propagation in circular waveguides with the periodic structure in the φ-axis shown in Fig. 1 of Enclosure is analyzed. For waves with $\lambda > p$, the longitudinal slots act as a heavy shield for TM_{nm} waves and a weak shield for the TE_{nm} waves, permitting separate coexistence of symmetrical magnetic and electrical waves. A model, of finite length and end-coupled with solid metallic circular waveguides, is discussed. It has the following characteristics: $a = 10$ mm, $p = 2$ mm, $q = 2b'/p = 0.72$, and $b = 20.75$ mm. An incident TE_{01} wave with the characteristic value of $\mu_{01} = 3.83$ is applied from the solid waveguide. Energy transfer from the $r \leq a$ region into the $a \leq r \leq b$ region is periodic with a beat

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ACCESSION NR: AP5017658

0

wavelength λ_b = 26 cm. Practically complete energy transfer (99% or -20 db) should take place at $Z = \lambda_b/2$ = 13 cm; however, actual tests showed energy transfer of -18 db at Z = 11 cm. When loaded, the waveguide behaves like a TE_{01} variable linear attenuator with an approximate slope of 1 db/cm. The waveguide when used as a filter is characterized by 0.1—0.2-db TM_{01} and TM_{11} attenuation while the TE_{01} wave was down 20 db. Orig. art. has: 7 figures and 21 formulas. [BD]

ASSOCIATION: none

SUBMITTED: 13May64 ENCL: 01 SUB CODE: EC

NO REF SOV: 006 OTHER: 002 ATD PRESS: 4063

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

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ACCESSION NR: AP5017618

ENCLOSURE: 01

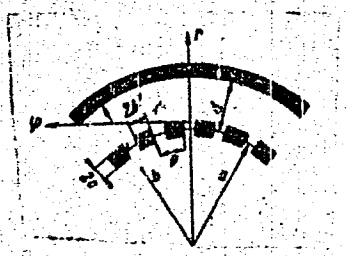

Fig. 1. Cross-section of the waveguide

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

ACC NR: AP6018995 SOURCE CODE: UR/0109/66/011/006/1046/1050

AUTHOR: Persikov, M. V.; Kotik, I. P.; Sivov, A. N.

ORG: none

TITLE: Optimizing the pattern of radiation from the open end of a waveguide

SOURCE: Radiotekhnika i elektronika, v. 11, no. 6, 1966, 1046-1050

TOPIC TAGS: waveguide antenna, antenna radiation pattern

ABSTRACT: This problem is considered: What relations among amplitudes and phases of modes emerging from a waveguide open end are required in order to ensure that the ratio of energy radiated within an angle 2δ to the energy delivered by all arriving modes be maximum? To simplify mathematical operations, a simplest model of a planar waveguide is considered in which the modes ($TE_{0,2n-1}$ and $E_{0,2n-1}$) with cophasal current-density distribution at the opposite plates

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ACC NR: AP6018995

propagate. It is found that, with 3 or more modes, the optimal field distribution at the radiating aperture is sufficiently well approximated. The loss due to reflections from the waveguide open end can be most efficiently reduced with the $TE_{0,2n-1}$ -mode. The method of optimal radiation-pattern shaping described in the article is equally applicable to quasi-optical beam transmission lines. Orig. art. has: 2 figures, 8 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: 10Feb65 / ORIG REF: 002 / OTH REF: 003

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

MITIN, V. F., kand. tekhn. nauk; GAVRILOV, Yu. M., inzh.; PERSIKOV, V. I.

Equipment MK-1,8 for the ETU-0, 75A excavator. Torf. prom. 40 no.3:13-15 '63. (MIRA 16:4)

1. Kalininskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta torfyanoy promyshlennosti.

(Peat machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIKOVA, Z.I.

Formation of turf plots and the life cycle of matgrass. Biul. MOIP.Otd.biol 64 no.5:61-68 S-O '59. (MIRA 13:6)
(MATGRASS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIKOVA, Z.I.

Development and life cycle of certain sod-forming grasses. Nauch. dokl.vys.shkoly; biol.nauki no.3:160-163 '59.(MIRA 12:10)

1. Rekomendovana kafedroy botaniki Stalingradskogo gosudarstvennogo pedagogicheskogo instituta im. A.S.Serafimovicha.
(Grasses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIKOVA, Z. I., Cand of Bio-Sci --- (diss) "Morphology and Biology of Certain Turf Grasses,"
Stalingrad, 1959, 20 pp (Moscow State Pedagogical Institute imeni V. I. Lenin) (KL, 6-60, 122)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, G. N.; MOSKALENKO, N. Yu.

"The Monomycin treatment of experimental Leishmaniasis of the skin."

reportpresented at 4th Intl Cong, Hungarian Soc of Microbiologists, Budapest, 30 Sep-3 Oct 64.

All-Union Sci Res Chemico Pharmaceutical Inst im Ordzhonikidze, Moscow.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, I.Ya., inzhener.

Is it necessary to divide suggestions in technical improvements and efficiency suggestions? Izobr. v SSSR 2 no.6:26-27 Je '57.
(Suggestion systems) (MLRA 10:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

[illegible], Pavel Nikolaevich, 1[illegible]-

Economic conditions in Russia. Voronezh, Voronezhskoe otd.-nie gos. izd-vo, 1921.
39 p.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

BOBINSKAYA, Gildeka Gabdulovna; GRIGOR'YEVA, Tat'yana Grigor'yevna; PERSIN, Solomon Abramovich; ZHDANOVA, L.N., red.

[Wireworms and their control] Provolochniki i mery bor'by s nimi. Leningrad, Kolos, 1965. 221 p. (MIRA 18:9)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

CA

15A

Agrochemical and chemical measures against wireworms. G. K. Pyatnitskii and S. A. Persin. *Doklady Vsesoyuz. Akad. Sel'sko-Khoz. Nauk* 13, No. 5, 29-34(1948).—Hexachloran (hexachlorocyclohexane), 15% in a superphosphate carrier applied at 3 centners per ha. on a loam soil disked in, is effective against wireworms. Applied in the hill, 1.2 centners per ha. is sufficient. The mortality of the worms decreases with depth of disking, but complete control is obtained when mixed with the plowed layer. The young worms are more susceptible to the treatments. Similarly, *Selatosomus* is much more susceptible to the poison than *Agriotes*. Earthworms are not affected by this chemical. The increase in yield of potatoes is ascribed to the carrier. The germination of carrots is enhanced (12% increase); spring wheat, 9%; and table beets, 3%. A 0.5 to 1.1% dust of hexachloran is also effective against the cabbage fly. A 5% dust used, with kaolin as a carrier, against the cabbage fly and fleas (aphids?) at the rate of 25 kg. per ha. applied after 3-5 and 15-18 days of setting out the plants gave control and increased the yield. The neg. quality of this material is the obnoxious smell developed in the potato tubers. The cabbage gave no undesirable odors. In comparing the hexachloran with other measures against wireworms, it was found that Ca cyanamide is effective on light soils having a cation-exchange capacity not above 10 milliequiv. per 100 g. of soil. Even $(NH_4)_2SO_4$ and other ammonia salts, when applied in large quantities to light soils, are effective against wireworms. The favorable effects are ascribed to the increase in osmotic concn of the soil soln.

J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S. A.

6751* (Effect of Hexachlorane on Soil Fertility and Yield of Agricultural Crops.) Vliianie geksakhlorana (GKhTsG) na pochvennoe plodorodie i urozhai sel'skokhozialstvennykh kul'tur. S. A. Persin. *Doklady Vsesoiuznoi Ordena Lenina Akademii Sel'skokhozialstvennykh Nauk, Imeni V.I. Lenina*, v. 19, no. 4, 1954, p. 29-31.

Tests on sugar beets, barley, oats, winter wheat. Various soil types. Tables.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S. A.

Effect of ecological conditions on development and toxicity of plants to the beet weevil after soil treatment with hexachlorocyclohexane under sugar beet. S. G. Bobinskaya and S. A. Persin. *Doklady Akad. Nauk S.S.S.R.* 105, 1350-3(1955).—In water-deficient conditions the introduction of BHC either into the soil or by seed dusting serves severely to reduce the leaf area of beets; normal water supply gave a higher crop yield, further increased by added NPK. Thus org. Cl compds. stimulate plant growth only if water supply is adequate. The toxicity of the plant to beet weevil also rises with improved growing conditions (water supply). At normal water-supply level the insect toxicity is 1.5-2 times higher than that under water-deficiency conditions. G. M. Kosolapoff

Agri

All-Union Sci. Res. Inst. Plant Protection

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S. A.

USSR/Chemistry - Insecticides, for Wireworms
Chemistry - Fertilizers, Ammonia

May 48

"Problem of Agrochemical and Chemical Control of Wireworms," G.K. Pyatnitskiy, Cand Agr Sci, S. A. Persin, Cand Geogl Mineral Sci, All-Union Inst for Plant Protection, 7 pp

"Dok V-S Ak Selkhoz Nauk" No 5

Describes some of the insecticides and fertilizers which are being used in the Soviet Union to combat the wireworm. Lists experimental results of various chemical control methods. It was found that ammonia containing fertilizers effectively controlled wireworms in light soils.

PA 13/49T8

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A., starshiy nauchnyy sotrudnik; YEFIMOVA, L.F., aspirantka; YEREMINA, L.K.; TITOVA, R.P.; SHAKIROVA, R.S.

Simultaneous placement of pesticides and fertilizers. Zashch. rast. ot vred. i bol. 9 no.9:13 '64. (MIRA 17:11)

1. Vsesoyuznyy institut zashchity rasteniy (for Persin). 2. Nachal'nik Kirovskogo otryada po zashchite rasteniy (for Yeremina). 3. Novosibirskaya stantsiya zashchity rasteniy (for Titova). 4. Starshiy agronom TSelinogradskoy stantsii zashchity rasteniy (for Shakirova).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A., starshiy nauchnyy sotrudnik

Effect of soil conditions on the effectiveness of preparation. Zashch. rast. ot vred. i bol. 8 no.10:15-17 O '63. (MIRA 17:6)

1. Vsesoyuznyy institut zashchity rasteniy.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A., starshiy nauchnyy sotrudnik

Using a complex of preparations. Zashch. rast. ot vred. i bol. 7 no.12:23-24 D '62. (MIRA 16:7)

1. Vsesoyuznyy institut zashchity rasteniy.
(Corn(Maize)) (Agricultural chemicals)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

GRIGOR'YEVA, T.G., starshiy nauchnyy sotrudnik; GLEBOV, M.A., starshiy nauchnyy sotrudnik; PERSIN, S.A., starshiy nauchnyy sotrudnik; PETRUKHA, O.I., starshiy nauchnyy sotrudnik; SLIVA, I.K.

Practices in effective control of the sugar beet weevil. Zashch. rast. ot vred. i bol. 4 no.5:23-25 S-O '59. (MIRA 16:1)

1. Vsesoyuznyy institut zashchity rasteniy (for Grigor'yeva, Glebov, Persin). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly (for Petrukha). 3. Glavnyy agronom inspektsii po sel'skomu khozyaystvu Smelyanskogo rayona, Cherkasskoy oblasti (for Sliva).

(Smela District--Sugar beets--Diseases and pests)
(Smela District--Weevils--Extermination)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A., kand.sel'skokhoz.nauk

Experience in chemical protection of potatoes against wireworms. Zashch. rast. ot vred. i bol. 6 no.4:28-29 Ap '61. (MIRA 15:6)

1. Vsesoyuznyy institut zashchity rasteniy, g. Leningrad.
(Potatoes--Diseases and pests)
(Wireworms) (Heptachlor)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A.

Effect of chlorine organic compounds on soil fertility and crop yields. Pochvovedenie no.9:91-99 S '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity rasteniy.
(Chlorine organic compounds) (Soil fertility)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A.

Action of heptachlor and chloroindan introduced into the soil upon the larvae of beet curculionidae. Sakh.prom. 34 no.6:70-71 Je '60. (MIRA 13:7)

1. Vsesoyuznyy institut zashchity rasteniy.
(Sugar beets) (Pesticides)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.A.

Effect of hexachloran on the yield and chemical composition of sugar beets. Sakh. prom. 33 no.8:53-56 Ag '59.
(MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity rasteniy (VIZR).
(Sugar beets) (Cyclohexane)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

COUNTRY : USSR
CATEGORY : Cultivated Plants - Industrial, Oleiferous, Sugar. M

[illegible] :
[illegible] :

[illegible] :

[illegible] : [illegible] of [illegible] losses of [illegible] hexachlorocyclohexane on plants and soil-inhabiting pests are explained by different soil conditions, specifically by the mechanical composition determining the physico-chemical (absorbing ability) and physical properties of the soil (porosity, tenacity, water, air, heat). — A. P. Adrianov

[illegible]/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIN, S.M.

Noncontact binary reversible counter. Trudy GGO no.138: 82-85 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

ACCESSION NR: AP4043454 S/0115/64/000/007/0005/0009

AUTHOR: Persin, S. M.

TITLE: Information content in digital measurement

SOURCE: Izmeritel'naya tekhnika, no. 7, 1964, 5-9

TOPIC TAGS: information, information analysis, digital measurement

ABSTRACT: An analysis of how the information content obtained from a digital measurement depends on the measurand characteristics, noise, and the quantizer used is presented. Formulas for the information content for these particular cases are developed: (1) Both the measurand and the noise have a normal distribution with density $f(x) = 1/L$ and $\varphi(y) = 1/a$; (2) The measurand has a uniform distribution, and the noise a normal distribution; (3) The measurand has a uniform distribution, and the noise an arbitrary distribution; (4) The measurand is distributed nonuniformly, while the magnitudes of noise and of quantum are

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ACCESSION NR: AP4043454

much lower than the mean square of the measurand. The level-quantization case considered in the article can also be extended over the case of the measurand depending on its previous values. Orig. art. has: 35 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00

SUB CODE: DP, IE NO REF SOV: 005 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

NOVITSKIY, P. V.; PERSIN, S. M.

"Methods of increasing the accuracy of digital measuring systems by the automatic compensation for systematic and incidental errors."

report submitted for the 3rd Intl Measurement Conf & 6th Intl Instruments & Measurements Conf, Stockholm, 14-19 Sep 64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

L 32421-65 EEC-4/EED-2/EEC(k)-2/EWT(d)/EEC(c)-2 Pn-4/Pq-4/Pac-4/Pae-2

ACCESSION NR: AT5004720 S/2785/63/000/016/0060/0069

AUTHOR: Persin, S. M.

TITLE: Precision contactless commutator for dc voltages

SOURCE: USSR. Gosudarstvennyy geologicheskiy komitet. Osobaya konstruktorskaya byuro. Geofizicheskoye priborostroyeniye, no. 16, 1963, 60-69

TOPIC TAGS: commutator, telemetering system, switching speed, commutator accuracy

ABSTRACT: The article presents an analysis of errors of contactless commutators used to switch signals from various pickups in telemetering systems, and proposes a new principle for the construction of such commutators. A block diagram of the commutator is shown in Fig. 1 of the Enclosure. It is shown first that the error of a standard contactless commutator may reach 0.5%, and that the construction of commutators with commutation accuracy of 0.1% is quite difficult, especially when high-resistance pickups are used. The accuracy can be improved, and frequently the circuit simplified besides, by replacing the contactless switches with contactless modulators (the number of which is equal to the number of pickups) in the feedback circuits of the amplifier-converter. Consequently, the output signals

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ACCESSION NR: AT5004720

from the pickups are simultaneously switched and amplified. It is possible to use either one common feedback loop for all the pickups (series feedback) or a separate feedback loop for each pickup (parallel feedback). The operation of the system is described, together with the manner in which the errors are eliminated. Several advantages of such commutator designs are listed. They can improve the accuracy by as much as two orders of magnitude, they can frequently simplify the circuit, and are especially advantageous for precision commutation of low-level signals from high-resistance pickups. The main shortcoming of such commutators is the relatively low operating speed due to the use of an amplifier converter. The use of a pulsed amplifier in place of the converter amplifier and the use of gating elements in place of modulators can increase the speed. Orig. art. has: 5 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 01 SUB CODE: EC, EP

NR REF SOV: 001 OTHER: 001

Card 2/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

L 32421-65
ACCESSION NR: AT5004720

ENCLOSURE: 01

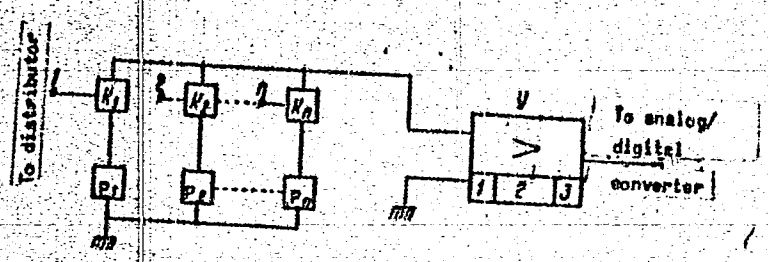

Fig. 1. Block diagram of contactless commutator.
P - Pickups, K - contactless gates, Y - amplifier;
1 - modulator, 2 - ac amplifier, 3 - demodulator with smoothing filter

Card 3/3

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L 32420-65 EEC-4/EED-2/EEO-2/EWT(d) Pm-4/Pac-4

ACCESSION NR: AT5004721 S/2785/63/000/016/0070/0077

AUTHOR: Persin, S. M.

TITLE: New circuits for precision transistor modulators

SOURCE: USSR. Gosudarstvennyy geologicheskiy komitet. Osobeye konstruktorskoye byuro. Geofizicheskoye priborostroyeniye, no. 16, 1963, 70-77

TOPIC TAGS: modulator, transistorized equipment, temperature drift, modulator unbalance

ABSTRACT: After first reviewing the existing transistorized modulators and listing some of their shortcomings, especially the difficulty of compensating for the temperature drift, the author describes several new modulators, in one of which the unbalance at on point can be eliminated completely without introducing an additional compensating variable voltage, and the temperature drift can be eliminated by using a thermistor, with no need for specially preselecting the transistors. Another transistor modulator, patented by the author (Author's Certificate 682535/26), analogous in many respects to the first modulator but using transistors with different types of conductivity (pnp and npn) is also described. The

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ACCESSION NR: AT5004721

diagrams of the two types of modulators are shown in Fig. 1 of the Enclosure. Both modulators were tested in a transistorized ac amplifier, with an input voltage on the order of 60--80 μV and with a square-wave input of 1,000 cps frequency. The tests and the results are described briefly, and show that the proposed modulator circuits have high accuracy and simplify the tuning and other requirements imposed on the circuit elements. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 01 SUB CODE: EC

NR REF SOV: 002 OTHER: 002

Card 2/3

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L 32420-65
ACCESSION NR: AT5004721

ENCLOSURE: 01

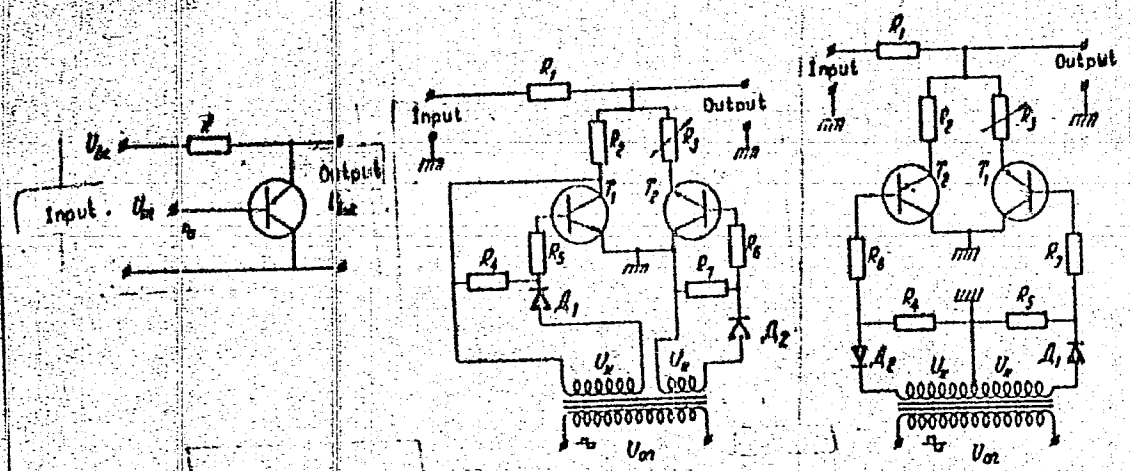

Fig. 1. Schematic diagrams of modulator using one transistor (left), two transistors of one type (middle), and two transistors with different types of conductivity (right)

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50 c

L 41182-65 EWT(d)/EWP(c)/EWP(v)/T/EWP(k)/EWP(l) Pf-4
ACCESSION NR: AP5004677 S/0115/64/000/009/0058/0059

70
18
B

AUTHOR: none

TITLE: Fourth scientific and technical conference on "Cybernetics for the improvement of measurement and inspection methods"

SOURCE: Izmeritel'naya tekhnika, no. 9, 1964, 58-59

TOPIC TAGS: cybernetics, electric measurement, electric quantity instrument, digital computer, electronic equipment, electric engineering conference

ABSTRACT: The conference was held 1-4 July at the All-Union Scientific Research Institute of Metrology by the Section of Electrical Measurements of the Council on the Problem of "Scientific Instrument Making" of the State Committee on Coordination of Scientific Research Work in the USSR together with the All-Union Scientific Research Institute of Electrical Measurement Instruments and the Leningrad Regional Administration of the Scientific and Technical Division of the Instrument Making Industry. More than 400 delegates from 29 cities of the country participated. Fifty-seven reports were heard and discussed. Reports were given by: P. V. NOVITSKIY (Leningrad)--"Definition of the Concept of Informational Error in Measurement and its Importance in Practical Use" and "On the Problem of the Average Informational Criterion of Accuracy Throughout the Entire Scale of an Instrument"; Ya. A.

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ACCESSION NR: AP5004677

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KUPERSHMIDT (Moscow)--"On Determination of the Criteria of Accuracy for Measurement Devices"; S. M. MANDEL'SHTAM (Leningrad)--report on a new criterion of accuracy of measurement instruments; P. F. PARSHIN (Leningrad)--report on optimization when using Fourier transforms on electronic digital computers; S. P. DMITRIYEV, O. Ya. DOLGINTSEVA and A. A. IGNATOV (Leningrad)--proposal of a new method for solving problems of optimum filtering for non-stationary random signals and interference; I. B. CHELPANOV--"Calculation of the Dynamic Characteristics of an Optimum Complex Two-Channel System which Uses Signals from a Position Meter and from a Speed Meter"; R. A. POLUEKTOV (Leningrad)--"Optimum Periodic Correction in the Measurement of Continuous Signals"; S. P. ADAMOVICH (Moscow)--"Analysis and Construction of Devices for Correction of Non-linearity and Scaling for Unitary Codes; G. V. GORBLOVA (Taganrog)--"A Method for Statistical Optimization in Graduating the Scales of Electrical Measuring Instruments"; M. A. ZEMEL'MAN (Moscow)--"Analog-Digital Voltage Converter with Automatic Error Correction"; B. N. MALINOVSKIY, V. S. KALENCHUK and I. A. YANOVICH (Kiev)--"Automatic Monitoring of the Parameters of the Electrical Signals of Complex Radio and Electronic Equipment"; V. P. PEROV (Moscow)--"Operational Cybernetics as an Independent Scientific Specialization"; Ye. N. GIL'BO (Leningrad)--"On the Problem of Effective Non-linear Scales"; A. I. MARKELOV (Moscow)--"Devices for Preliminary Processing of the Results of Measurements Presented in the Form of

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ACCESSION NR: AP5006677

Graphic Recordings For Subsequent Introduction of the Information into Universal Digital Computers"; O. M. MOGILEVER and S. S. SOKOLOV (Leningrad)--"On a Method for Reducing Excess Information"; T. V. NIKOLAYEVA (Leningrad)--"A Device for Temporal Discretization of Continuous Signals"; A. A. LYOVIN and M. L. BULIS (Moscow)--"Optimization of the Transmission of Telemetric Information as a Means for Raising the Efficiency and Eliminating Interference"; D. E. GUKOVSKIY (Moscow)--"On a Statistic Approach to the Detection of Events in Automatic Inspection"; M. I. LANIN (Leningrad)--"Method for Calculating the Holding Time of Communications in a Centralized Inspection System or Constant Servicing Time"; O. N. BRONSHTEYN, A. L. RAYKIN and V. V. RYKOV (Moscow)--"On a Single-Line Mass Service System with Losses"; V. M. SHLYANDIN (Penza)--report on circuit designs for direct compensation electrical digital measuring instruments; A. N. KOMOV (Novocherkassk)--report on a new method for compensation of digital bridges; M. N. GLAZOV (Leningrad)--report on the problem of voltage-to-angular rotation conversion; V. S. GUTNIKOV (Leningrad)--"Methods for Construction of Frequency Capacitance Pickups with a Linear Scale"; R. Ya. SYROPYATOVA and R. R. KHARCHENKO (Moscow)--report on the determination of the amplitude-frequency and phase characteristics of PFM and PWM modulators; Ye. I. TENYAKOV (Novocherkassk)--"The Phototransistor as a Switch for Electrical Measurement Purposes"; N. V. MALYGINA (Leningrad)--a report on ways for making universal equipment for measurement of current, voltage and power; P. P. ORNATSKIY and V. I. ZOZULYA (Kiev)--reports on the construction of static voltmeters, wattmeters and

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ACCESSION NR: AP5004677

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phase meters; A. V. TRIKHANOV, I. G. SMYSHLYAYEV, N. I. SABLIN, V. M. RAZIN and V. A. GORBUNOV (Tomsk)--report on a device for automatic processing of the measurements of vibration amplitude of pneumatic hammers; L. K. RUKINA and V. G. KNORRING (Leningrad) --report on the development of a digital compensator for measuring pressure, force, etc.; N. B. DADUKINA (Leningrad)--report on a method for constructing frequency pickups for gas analysis; Ye. M. KARPOV, V. A. BRAZHNIKOV and B. Ya. LIKHTTSINDER (Kuybyshev)--reports on analysis and recording of boring speeds; Yu. V. PSHENICHNIKOV (Kuybyshev)--"A High Speed Voltage-to-Digital Code Converter for ac Pickups"; G. P. VIKHROV and V. K. ISAYEV (Vilna)--"A Highly Accurate Digital Peak-to-Peak Voltmeter"; and S. M. PERSIN (Leningrad)--"A Low Level Analog-Digital Voltage Converter."

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EE, EC

NO REF SOV: 000 OTHER: 000 JPRS

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Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

L 46597-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) GD/EC
ACC NR: AT6011923 SOURCE CODE: UR/0000/66/000/000/0017/0027

AUTHOR: Persin, S.M. (Leningrad)

ORG: none

TITLE: Information characteristics of digital measuring systems

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy, 5th. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy: trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966, 17-27

TOPIC TAGS: information processing, random noise signal, information theory, measuring system

ABSTRACT: The characteristics of the quantization devices used in digital measuring techniques are often established by means of procedures of the theory of errors. Lately, measuring systems are also being described using the concepts of information theory. The present paper discusses the relationship between the amount of information obtained during digital measurements and the characteristics of the measured quantity, the noise, and the quantization device. The input of the quantization unit accepts the continuous signal and the noise (the random error of the sensing converter is also fed to the quantization device and

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ACC NR: AT6011923

thus taken into account). Following a general theoretical introduction, the author discusses quantization in the presence of additive perturbations, quantization during multiplicative and combined noises, the quantity of information during nonuniform quantization, and the quantization with a random initial phase. Orig. art. has: 43 formulas.

SUB CODE: 09 / SUBM DATE: 29Nov65 / ORIG REF: 004

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

[illegible] : R[illegible]

[illegible] : [illegible] Diseases of Cultivated Plants.

[illegible] : [illegible] 6577

[illegible] : [illegible]

[illegible] : [illegible]

[illegible] : [illegible] Diseases.

[illegible] : [illegible] Cluj, [illegible]

[illegible] : [illegible] corresponding [illegible] Datilago [illegible] Puccinia [illegible] graminis, were [illegible] All of the [illegible] to be more resistant [illegible] diseases than plants which [illegible] the unvernalized [illegible]

[illegible] : 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSININ, Yu.N.; IVANOV, S.Ya.

Accelerated start of a topping turbine. Prom. energ. 17 no.9:8 S '62. (MIRA 15:8)

(Steam turbines)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, G.L.

Introduce diamond tools widely. Mashinostroitel' no.6:35-36 Je '64. (MIRA 17:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

L 07390-67 EWT(d)/EWT(m)/EWP(v)/ [illegible]
ACC NR: AP6030420 (N) SOURCE CODE: UR/0193/66/000/007/0003/0005

AUTHOR: Shapiro, I. S. (Candidate of technical sciences); Beyder, B. D.; Persits, L. M.

ORG: None

TITLE: Development of the technological process of plasma-arc cutting

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 7, 1966, 3-5

TOPIC TAGS: plasma cutting, plasma arc, manual plasma cutting, metal cutting

ABSTRACT: The authors describe new plasma-arc cutting equipment developed in 1965-66 to eliminate the disadvantages of fast tip burnout, relatively wide cutting path, the difficulty of producing high-quality edges in cutting thin pieces and low productivity in working with heavy pieces. These new units, the OPR-4 and OPR-5 may be used for cutting aluminum alloys, stainless steel, copper and copper-based alloys. Each of these installations includes a power supply, control unit and torch. Automated cutting is controlled from a special panel while knobs on the cutter are used for control in manual cutting. Each installation includes a PPR-3 semi-automatic unit for controlling torch feed from 80 to 3500 mm/min. Tables are given showing cutting conditions for aluminum and stainless steel. High-quality edges and high productivity in cutting thick metal are achieved by using gas mixtures with a high concentration of hydrogen. The optimum hydrogen concentration should increase with the thickness of the metal to be cut. Introduction of this type of equipment should give a yearly savings of about 10,000 rubles. Orig. art. has: 3 tables.

SUB CODE: 13/ SUBM DATE/ None

Card 1/1 UDC: 621.791.947.55

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, M. A.

Dissertation defended for the degree of Candidate of Historical Sciences at the Institute of the People of Asia

"The Far-East Republic and China. Role of the Far-East Republic in the Struggle of Soviet Authority for Friendship with China During 1920-1922."

Vestnik Akad. Nauk, No. 4, 1963, pp 139-145

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

TURETSKIY, Sh.Ya., doktor ekon. nauk; AGANBEGYAN, A.G., doktor ekon. nauk; PERSITS, M.M.; LUSHIN, S.I., kand. ekon. nauk; CHUBAKOV, G.N., kand. ekon. nauk; SMEKHOV, B.M., prof., doktor ekon. nauk; KOKOREV, M.A., kand. ekon. nauk; ABRYUTINA, M.S.; MITINA, N., red.; BESSUDNOVA, N., mlad. red.

[Large-scale socialist reproduction and the national economic balance] Rasshirennoe sotsialisticheskoe vosproizvodstvo i balans narodnogo khoziaistva. Moskva, Izd-vo "Mysl'," 1964. 373 p. (MIRA 17:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, P.

Method of uncovering hidden potentialities for the increase of labor productivity in the chemical industry subordinated to local authorities. Biul.nauch.inform.: trud i zar.plata 3 no.5:11-18 '60. (MIRA 13:8)
(Chemical industries--Labor productivity)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, P.

Economic studies in the field of "little" chemistry. Vop. ekon. no.8:139-140 Ag '58. (MIRA 11:9)
(Chemical industries)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

FERSITS, P.M.

Basic problems of the development of the "small" chemistry. Trudy NITKHI no.1:6-11 '62. (MIRA 17:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

VIL'NYANSKIY, Ya.Ye.; PERSITS, Z.L.

Theory of the sodium silicate method used in the production of sodium tungstate from calcium tungstate. Zhur. prikl. khim. v. 31 no.5:669-674 My '58. (MIRA 11:6)

1.Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
(Sodium silicates) (Sodium tungstates) (Calcium tungstates)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, Z. L.

PROCESSES AND PROPERTIES INDEX

Some properties of $Na_3H(SO_4)_2$. Ya. E. Vil'nyanskii and Z. L. Persits. *J. Gen. Chem.* (U.S.S.R.) 16, 1097-9 (1946) (in Russian).—The crystals were obtained from a soln. of Na_2SO_4 in dil. H_2SO_4 by partial evapn. and cooling, and identified by analysis: glossy needles, strongly birefringent, $n_a = 1.459$, $n_\gamma = 1.479 \pm 0.004$, nonhygroscopic. On heating, liquid was first noticed visually at 290°; solid was still present at 530°; no significant dissocn. occurred at that temp. From heating and cooling arrests, incongruent m. takes place at 270° ± 1°. The data permit the completion of the H_2SO_4-Na_2SO_4 phase diagram with the solid $3Na_2SO_4.H_2SO_4$. N. Thon

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Urel Ind. Inst. im. S M Kirov

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSITS, Z. M.

USSR/Electricity - Motors, Induction Dec 50
Wind Tunnels

"Asymmetrical Regulation of Induction Motors for Drives With a Blower Load," G. M. Kasprzhak, Cand Tech Sci, Z. M. Persits, Engr, Moscow

"Elektrichestvo" No 12, pp 25-32

Analyzes 2 asym regulation circuits for 2-phase induction motors with slip rings for wind-tunnel drives. Gives results in universal dimensionless relations expressing regulation and load properties of drives with the so-called ventilator static torque. These circuits were devised by authors in 1947-1948 at Aerodynamics Lab, Moscow State U. Submitted 6 Feb 50.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

A

B 64

621.316.718 : 621.313.333.1 : 621.34

1339. **Asymmetrical regulation of an induction motor for a drive involving a fan torque.** G. M. KASPRZHAK AND Z. M. PERETS. *Elektrichestvo, No.* 12, 25-32 (*Dec.*, 1950) *In Russian.*

Two systems of asymmetrical regulation of 2-phase slip-ring induction motors for driving fans of wind tunnels are described and calculated and their performances compared. The calculations are based on a simplified equivalent circuit. The results are given in the form of universally valid dimensionless relations representing the regulation and load characteristics of regulated asynchronous drives working on a "static fan torque." These characteristics, together with the test results obtained, provide the necessary data for designing such drives. B. F. KRAUS

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANINOV, L.S.

Manual and instrumental examination of the uterus in the puerperal period. Akush. i gin. 36 no.2:15-20 Mr-Ap '60. (MIRA 13:12)
(UTERUS--EXAMINATION) (PUERPERIUM)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, A., inzh.; FARBER, B., inzh.; POLINKOVSKAYA, A., kand.tekhn.nauk

The quality of keramzit "sand" is improving. Na stroi. Ros. 3 no.2: 26-27 F '62. (MIRA 16:2)

(Keramzit)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

L 32709-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) BC

ACC NR: AR6016326 (A, N) SOURCE CODE: UR/0273/65/000/012/0038/0038

AUTHOR: Persiyanov, A. G.

TITLE: Centrifugal diesel-engine speed regulator with play compensation for the control element

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 12.39.300

REF SOURCE: Sb. Materialy dokl. 1-y Nauchno-tekhn. konferentsii Kishinevsk. politekhn. in-ta. Kishinev, 1965, 102-103

TOPIC TAGS: diesel engine, speed regulator, ~~spring device, centrifugal speed regulator~~ CENTRIFUGAL FORCE

ABSTRACT: A spring device is suggested for an all-speed regulator on transport diesel engines which is designed to take up the rack play and thus to eliminate its adverse effect on the performance of the regulator [Translation of author's abstract.] [AM]

SUB CODE: 13/ SUBM DATE: none

Card 1/1 BLG UDC: 621.436-531.6

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PESIYANOV, A.N., inzh.

Fireproof lining of rotary kilns for kilning keramzit. Stroi.mat. 6 no.5:25-26 My '60. (MIRA 13:7)
(Kilns, Rotary) (Fireproofing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

SOV/86-58-8-26/37

AUTHOR: Persiyanov, B.M., Guards Lt Col

TITLE: The Road to Sevastopol (Put' k Sevastopolyu)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 8, pp 72-77 (USSR)

ABSTRACT: The author describes the operations of "shturmovik" attack planes during the capture of Crimea by the troops of the 4th Ukrainian front and the Separate Black Sea Army in 1944. Four photos.

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, B.M., gvardii podpolkovnik.

Route to Sevastopol. Vest. Vozd. Fl. 41 no.8:72-77 Ag '58.
(Sevastopol--World War, 1939-1945) (MIRA 11:9)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

CA

18

Apparatus for cooling and absorbing gaseous hydrogen chloride. P. A. Persiyaninov. Russ. 38,130, Aug. 31, 1934. The app. consists of a tower cooled by spraying with water and a ceramic conduit, connecting the tower with the sulfate kiln, cooled on the outside with water and on the inside with dil. HCl from the tower.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, D.

IAkov Ivanovich Kornilov. Nashi vesti no.72:8-11 F '55.(MLRA 8:1)
(Kornilov, IAkov Ivanovich) (Yugoslavia--World War, 1939-1945--
Personal narratives)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, Dmitriy Andreyevich, esaul.

Greetings from Paraguay. Nashi vesti no.63:2-3 S '54.(MIRA 7:9)
(Yugoslavia--World War, 1939-1945) (World War, 1939-1945--
Yugoslavia)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, M.A., dorsent, kandidat tekhnicheskikh nauk.

Use of soils in gaiso mortars. Trudy Tb IIZHT no.28:105-123 '55. (MLRA 9:2)

(Mortar)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, MOISEY ARTEMYEVICH

N/5
661.3
.P4

Osnovy stroitel'nogo dela na zheleznodorozhnom transporte (Fundamentals of construction work on railroad transportation) Moskva, Transzheldorizdat, 1955-
V. diagrs., tables.
Lib. has: V.I.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

FERSIYANOV, A.N., inzh.

Basic units require rem deling. Stroi. mat. 10 no.7:24-25 Jl '64
(MIRA 18:1)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, Moisey Artem'yevich, dotsent, kandidat tekhnicheskikh nauk; SKAVRONSKIY, B.I., kandidat tekhnicheskikh nauk; redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Principles of construction work for railroad installations] Osnovy stroitel'nogo dela na zheleznodorozhnom transporte. Part I [Building materials] Stroitel'nye materialy. Moskva, Gos. transp. zheldor. izd-vo, 1955. 270 p. (MLRA 8:6)
(Building materials)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOV, V.G., inzh.

Universal UTKP heat relay. Prom. energ. 17 no.12:23-25 D '62.
(MIRA 15:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PREOBRAZHENSKIY, N.A.; MAURIT, M.Ye.; BAZILEVSKAYA, G.I.; SMIRNOVA, G.V.; EL'MANOVICH, M.M.; VALAKHANOVICH, A.I.; PERSIYANOVA, E.

Synthesis of racemic stereoisomeric α-alkylparaconic acids. Zhur.ob.khim. 30 no.7:2250-2256 Jl '60. (MIRA 13:7)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Paraconic acid)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANOVA, I. V.

USSR/Chemistry - Pharmaceuticals Aug 53

"Investigation of the Process of Decarboxylation of p-Aminosalicylic Acid and Its Sodium Salt," Yu. N. Sheynker and I.V. Persiyanova, All-Union Sci-Res Chem-Pharm Inst im S. Ordzhonikidze

Zhur Prik Khim, Vol 26, No 8, pp 860-867

Studied the decarboxylation of p-aminosalicylic acid (PASK) to m-aminophenol by elimination of CO_2 in the temp range 60-100°C. At this temp the reaction is a typical topochemical, autocatalytic process, passing through an induction period and a stage of rapid decomp. Raising the temp

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increases the velocity of both stages. At room temp the induction period is prolonged and therefore the dry acid, with no catalysts, is practically stable at this temp. H_2O and m-aminophenol are catalysts for the decomp of PASK. The velocity of the decomp of PASK is independent of the initial pressure of CO_2 at pressures below 760 mm. The Na salt of PASK is stable in the temp range studied.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANTSEV, V.A., dotsent, kand. tekhn. nauk

Relationship between the resistance and the rate of deformation. Izv. vys. ucheb. zav.; mashinostr. no.10:87-98 '58. (MIRA 12:11)

1. Moskovskiy avtomekhanicheskiy institut.
(Deformation (Mechanics))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

TSELIKOV, A.I.; PERSIYANTSEV, V.A., kand.tekhn.nauk

Calculation of the effect of cold working on resistance to deformation in primary recrystallization processes. [Trudy] MVTU no.80:22-34 '57. (MIRA 10:12)

1. Chlen-korrespondent AN SSSR (for TSelikov).
(Rolling (Metalwork)) (Deformations (Mechanics))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANTSEV, N. A.

P 4

25(1) PHASE I BOOK EXPLOITATION SOV/3368

Moscow. Avtomekhanicheskiy institut. Kafedra "Mashiny i tekhnologiya obrabotki metallov davleniyem"

Protsessy shtampovki i ikh tekhnologicheskiye parametry (Pressure-working Processes and Their Technological Characteristics) Moscow, Mashgiz, 1959. 198 p. Errata slip inserted. 3,650 copies printed.

Sponsoring Agency: Ministerstvo vysshego obrazovaniya SSSR.

Ed.: I. A. Noritsyn, Doctor of Technical Sciences, Professor; Ed. of Publishing House: G.N. Soboleva; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer.

PURPOSE: The book is intended for engineering and scientific personnel of plant laboratories, stamping and forging shops. It can also be used by students.

COVERAGE: The authors of the eight articles in this collection

Card 1/6

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analyze speed and power coefficients, discuss methods of pressing, rates of deformation, and other problems in pressing and forging. The articles are based on research conducted by the Department of Machines and Technology of Metal Forming of the Moskovskiy avtomekhanicheskiy institut (Moscow Automation and Mechanization Institute). References appear at the end of each article.

TABLE OF CONTENTS:

Foreword 3

Noritsyn, I. A., Doctor of Technical Sciences, Professor. Study of Properties of Materials at High Rates of Plastic Deformation. 7

The article is based on papers read at a conference in London, May 1957, on properties of solid materials at high rates of strain.

Rebel'skiy, A. V., Candidate of Technical Sciences, Docent. Investigation of Technological Parameters and Methods of Hot

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

Forging in Closed Dies 24

The article is divided into ten parts: (1) Classification of forming and forging operations; some general principles; (2) Stress in closed-die forging; (3) Formulas for determining the specific pressure and force in closed-die forging; (4) Experimental verification of formulas and certain features of closed-die forging; (5) Closed upsetting; (6) Open upsetting and open-die forging; (7) Deformations in open- and closed-die forging; (8) Closed-die forging; (9) Open-die stamping; (10) Brief conclusions on methods of working out the technology of closed-die hot forging.

Noritsyn, I. A., Doctor of Technical Sciences, Professor.
Analysis of Parameters of High-speed Direct Pressing and Drawing 117

In plastic deformation there are three speed parameters: speed of the flow of metal, speed of deformation, and speed of the deforming instrument. The author studies the interrelationship of these parameters, and the

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effect of dimensions and form of the deformed area. Equations expressing this relationship are derived.

Persiyantsev, V. A., Candidate of Technical Sciences, Docent. Dependence of Resistance to Deformation on Deformation Speed. 128

The author analyzes the unexplored field of resistance to deformation in high-speed hot forging. Certain principles of such dependence are deduced on the basis of analogy with cold-stamping practices.

Shekhter, V. Ya., Candidate of Technical Sciences. Application of the Theory of Actual Stress Curves to Various Temperature Conditions of Deformation 146

This theory, thus far applicable only to cold deformation, is analyzed for possible application to hot-forging practice.

Protopopov, O. V., Engineer. Investigation into the Practice of Upsetting Pipe Stock. 155

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

The article is divided into three sections: problem of stress, problem of stability, and experimental results. The article analyzes the process of deformation of stock in the press and derives formulas for press force.

Orlov, P. K., Candidate of Technical Sciences. Experimental Investigation of the Formation of Flow Lines in Cold Stamped and Drawn Body Sections of Automobiles 169

The article covers the surface layer of sheets, formation of flow lines as a result of elongation stress, flow lines in deep drawing, and flow lines in cold-worked parts.

Polyakov, I. S., Engineer. Aspects of Rapid Heating of Forging Blanks 183

The author discusses and evaluates five methods of heating: rapid heating in a flame furnace, induction heating, arc-furnace heating, heating in an electrolyte, and heating in molten glass. No definite

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Pressure-working Processes (Cont.) SOV/3368

conclusions as to economic advantages of any of these methods are drawn.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

PERSIYANTSEV, V.A.

25 (1) p3 PHASE I BOOK EXPLOITATION SOV/292

Moscow. Vyssheye tekhnicheskoye uchilishche. Kafredra "Mashiny i tekhnologiya prokatki i volocheniya"

Prokatnyye stany i tekhnologiya prokatki; sbornik statey (Rolling Mills and Methods of Rolling; Collection of Articles) Moscow, Mashgiz, 1957. 125 p. (Series: Moscow. Vyssheye tekhnicheskoye uchilishche. /Trudy/ vyp. 80) 4,000 copies printed.

Ed.: M.L. Zaroshchinskiy, Doctor of Technical Sciences, Professor; Tech. Ed.: Ye.N. Matveyeva; Managing Ed. for Literature on Heavy Machine Building: Ya.S. Golovin, Engineer.

PURPOSE: This collection of articles is intended for the personnel of scientific research institutes, engineers, designers, teachers and students specializing in rolling methods and the building of rolling mill machinery.

COVERAGE: Theoretical and experimental studies done by the scientific workers of the department of "Machinery and methods of rolling and drawing" of MVTU (Moscow Higher Technical School) imeni Bauman are published in this collection.

Card 1/ 4

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

Tslikov, A.I., Corresponding Member of the Academy of Sciences, USSR, and V.A. Persiyantsev, Candidate of Technical Sciences. Effect of Cold Hardening on Resistance to Deformation in Overrecrystallization Processes 22

Zaroshchinskiy, M.L., Doctor of Technical Sciences, Professor. Change in Form of the Strip in Rolling in Plain Rolls 35

Smirnov, V.V., Candidate of Technical Sciences, Docent. On the Theory of Calculating the Power of the Drive for Rotary-type Straighteners 50

Kovolev, A.A., Candidate of Technical Sciences. Elastoplastic Bending of a Strip During Straightening on a Multiroll Machine 57

Zhavoronkov, V.A., Candidate of Technical Sciences. Investigation of Forces in Cross-helical Die Rolling of Periodic Profiles 77

Pushkarev, V.F., Candidate of Technical Sciences. Determination of Parameters Characterizing Resistance to Deformation of the Stock in Rolling 90

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Rolling Mills and Methods of Rolling SOV/292

Grishkov, A.I., Assistant. Some Problems in the Theory of Spreading in Rolling in Plain Rolls 106

Grishkov, A.I., Assistant. Measuring the Distribution of Unit Pressure Along the Contact Arc With Wire Transmitters 119

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

SOV/137-59-3-6931

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 287 (USSR)

AUTHOR: Persiyantsev, V. A.

TITLE: The Highly Efficient Operation of the TsNIITMASh Drop Hammer and Conditions Essential for its Operation (Vysokoeffektivnaya rabota molota TsNIITMASh i neobkhodimyye usloviya dlya yego raboty)

PERIODICAL: Sb. nauchn. tr. Nauchno-tekhn. o-vo tsvetn. metallurgii. Mosk. in-t tsvetn. met. i zolota, 1958, Nr 29, pp 266-278

ABSTRACT: The author describes the design of a drop hammer employing no anvil block and having different masses of mutually impinging components. One of the reasons that have impeded the adoption of this type of drop hammer by the industry lies in the fact that it is difficult to ensure equality of the momentum of the impinging components owing to the relatively small pressure variations of the working fluid within the cylinders. The following was established during studies of this phenomenon: 1) By computing the size of the slide-valve openings for a given type of drop hammer it becomes possible to determine analytically the size of these openings in the case of a hammer the cylinders of which are exposed to greater-than-nominal

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

The Highly Efficient Operation of the TsNIITMASh Drop Hammer (cont.) SOV/137-59-3-6931

pressures by the working fluid; consequently, the setting of the pressure regulator necessary to attain a definite deflection of the sabre-shaped lever may also be determined; 2) adjusting the regulator of the kinematic linkage for a certain size of the slide-valve opening at increased pressures of the working fluid in the cylinder provides additional possibilities for more convenient operation of the drop hammers under discussion

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Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

SOV/124-58-11-13506

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 220 (USSR)

AUTHORS: Tselikov, A. I., Persiyantsev, V. A.

TITLE: Consideration of the Effect of Work Hardening on the Strain Resistance in Incipient Recrystallization Processes (Uchet vliyaniya naklepa na soprotivleniye deformatsii v zarekristallizatsionnykh protsessakh)

PERIODICAL: V sb.: Prokatn. stany i tekhnol. prokatki. (MVTU, Nr 80). Moscow, Mashgiz, 1957, pp 22-34

ABSTRACT: It is established that in rapidly proceeding incipient recrystallization processes, as well as during cold working, the actual value of the strain exerts an independent influence on the magnitude of the true stress S_{true}. A radial diagram of true stresses is provided, wherein the relationship of S_{true} as against the length of time of stress exposure of the deformation process is shown in approximated form. An equation is adduced showing the influences on the strain resistance of three factors, namely, the strain rate, the strain value, and the relaxation rate. The use of the proposed equation enables one, starting from two experimentally known points, to determine the true stresses corresponding to other strain rates and other strain values. I. A. Razov

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120014-6

137-58-6-12218

Translation from: Referativnyy zhurnal Metallurgiya, 1958, Nr 6, p 149 (USSR)

AUTHORS: Tselikov, A.I. Persiyantsev, V.A.

TITLE: Allowing for the Effect of Work Hardening on Resistance to Deformation in Post-crystallization Processes (Uchet vliyaniya naklepa na soprotivleniye deformatsii v zakristallizatsionnykh protsessakh)

PERIODICAL: V sb.: Prokatn stany i tekhnol. prokatki. (MVTU, 80). Moscow Mashgiz 1957, pp 22-34

ABSTRACT: An examination is made of the question of determining the value of the true stress, S_u, or the actual σ_s at different rates of deformation (D). A method is advanced for calculating the resistance to deformation (RD) in post-crystallization processes (P), relative to speed. We are informed that RD depends upon the degree of D affecting the rate of D and the degree of work-hardening occurring in plastic D P, examples are presented confirming this relationship for cyclic and continuous P. It is noted that the resultant work-hardening in cold P is virtually independent of the rate of D, whereas in hot P the rate of plastic D has a major influence on work-hardening, and the

Card 1/2

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Allowing for the Effect of Work Hardening on Resistance to Deformation (cont.)

RD indices of the metal become functions of the degree and duration of D. For P proceeding slowly the true RD in the $T \geq 0.4\ T_{fusion}$ temperature interval is independent of the degree of D since at low rates of D softening P come into being, in which case RD may, to an adequate degree of accuracy, be replaced by the strength at the given temperature. The source of the increase in work-hardening in post-crystallization P is shown, as is the analytic relationship between RD and work-hardening occurring in the critical interval of D rates. An equation is presented for calculation of the magnitude of the true stress in cyclic and continuous P, with consideration for the influence of the rate and magnitude of D on RD, and making it possible to define RD to a high degree of accuracy in terms of the rate of D. It is noted that the intensity of work-hardening relative to D is characterized by the slope of the tangent to the curve of work-hardening due to deformation.

G.F.

1. Metals--Deformation [illegible] 2. Metals--Crystallization [illegible] 3. Metals--Hardening
4. Mathematics--Applications

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