

Loskutov, A.V.

LOSKUTOV, A.V.

Electric furnace encased in a water cooled container for heating
under a microscope. Zap.Vses.min.ob-va 84 no.3:374-376 '55.
(MIRA 8:11)

1. Leningradskiy Gosudarstvennyy universitet
(Microscopy) (Electric furnaces)

~~LOSUTOV, Aleksandr Vasil'yevich; VOROB'YEV, P.I., spetsial'nyy redaktor;~~
GORIANSKIY, Yu.V., redaktor izdatel'stva; KOTLYAKOVA, O.I.,
tekhnicheskii redaktor

[Emergency and rescue work in maritime transportation; problems in
practices at sea] Avariino-spasatel'noe delo na morskoy transporte;
voprosy morskoy praktiki. Leningrad, Izd-vo "Morskoy transport,"
1957. 291 p. (MLRA 10:10)

(Salvage) (Shipwrecks)
(Merchant marine--Safety measures)

LOSKUTOV, A. V. Cand Geol-Min Sci -- (diss) "Crystalliferous quartz veins of Novaya Zemlya." Len, 1959. 20 pp (Min of Higher Education USSR. Len State Order of Lenin Univ im A. A. Zhdanov), 150 copies (KL, 43-59, 122)

LOSKUTOV, A.V.

Healing quartz crystals. Trudy NIIGA 96:164-173 '59.
(MIRA 13:5)

... (Quartz crystals)

LOSKUTOV, A.V.

Interferometric study of quartz inclusions. Trudy NIIGA 96:
174-180 '59. (MIRA 13:5)
(Quartz) (Interferometer)

LOSKUTOV, A.V.

Liquid and polyphase inclusions in natrolite. Mat. po min.
Kol'. poluost. 2:84-95 '62. (MIRA 16:4)

(Natrolite)

LOSKUTOV, A.V.

Mineralogy of the hydrothermal veins in the Soustov Massif
of the Kola Peninsula. Mat. po min. Kol'. poluost. 3:168-
187 '62. (MIRA 17:3)

AEC NR: AP7007052

SOURCE CODE: UR/0026/66/000/006/0090/0096

AUTHOR: Loskutov, A. V. (Candidate of geological and mineralogical sciences)

ORG: none

TITLE: Geological aqualungists on Medved' Island

SOURCE: Priroda, no. 6, 1966, 90-96

TOPIC TAGS: geologic survey, silver / Medved' Island

ABSTRACT: The valuable work of Soviet aqualungists in the White Sea area near the Kola Peninsula on uninhabited Medved' Island is described. In the 1700's there was mining work on this island for exploitation of rich veins of natural silver, but the mines were abandoned centuries ago, having been completely depleted. The purpose of the visit of the aqualungists was to investigate the parts of the veins which were believed to outcrop in the sea below the water level; some veins could be traced on land, but only for a few meters above the water. Dives were made to depths of about 35 m; divers stayed below up to 1 hour. It was possible to obtain additional information on the geology of the island and the location of the veins, but the deposits in general are not worth exploitation for silver or any accompanying minerals. Despite the presence of pits on land there were no piles of debris; the waste rock apparently

Card 1/2

ACC NR: AP7007052

had been dumped in the sea, but it could not be found in the expected place. Instead, it had been carried away by the surf and littoral currents. Unfortunately, only a modest amount of information is given on the equipment used by the aqualungists, its performance and the problems encountered in underwater work. Orig. art. has: 6 figures. [JPRS: 38,460]

SUB CODE: 08

Card 2/2

83428

S/188/60/000/001/002/010
B019/B056

6.9400

AUTHORS: Medvedev, V. I., Loskutov, B. P.

TITLE: The Effect of Fluctuations in a Two-channel Phase Indicator
With Frequency Multipliers²⁾

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika,
astronomiya, 1960, No. 1, pp. 27-38

TEXT: In the introduction, the authors discuss applications of the phase-measuring methods of electrical and nonelectrical quantities, suggested by Academicians L. I. Mandel'shtam and N. D. Papaleksi. In the present paper, the authors calculate the conversion of a signal with noise in a system consisting of a nonlinear four-pole (frequency doubler) with a quadratic characteristic of the form $y = a_0 + a_1x + a_2x^2$ and a linear element (filter) with the transmission function $C(\omega)$, using the theory of random processes. Formula (7) is derived for the spectral density of the average power of the random processes at the output of the frequency doubler, and relation (13) for the signal-to-noise ratio at the output of

Card 1/3

The Effect of Fluctuations in a Two-channel
Phase Indicator With Frequency Multipliers

83428
S/188/60/000/001/002/010
B019/B056

the frequency doubler is set up as a function of the noise-to-signal ratio at the input of the doubler. In the diagram of Fig. 1, the results of a calculation carried out in accordance with (13) are graphically represented for various ratios between the transmission bands of the input and output circuits of the doubler. Experimental investigations of the distribution of noise voltage at the output of a multiplier channel consisting of one, two, or three frequency doublers showed that the non-linear conversion of a normal narrow-band noise led to an increase in the excess of the curve, the excess coefficient being doubled when the number of successive doublers was increased. The authors experimentally determined the phase error caused by noise in a two-channel phase indicator with frequency multipliers as a function of the noise-to-signal ratio at its input. The character of this function was found to be linear, and it was shown that the phase error due to noise is increased with an increase of the signal frequency. Further, the law of the increase in the phase error was found to be the same for all phase differences measured from 0 to π . There are 12 figures and 15 references: 14 Soviet and 1 British. X

Card 2/3

83428

The Effect of Fluctuations in a Two-channel
Phase Indicator With Frequency Multipliers

S/188/60/000/001/002/010
B019/B056

ASSOCIATION: Kafedra teorii kolebaniy (Chair of the Theory of
Oscillations)

SUBMITTED: May 14, 1959

UX

Card 3/3

TITENKOV, D.P., glavnyy vrach; LOSKUTOV, D.P., zamestitel' glavnogo vracha;
VINOGRADOV, S.G., vrach; KIRBITSKAYA, A.V., vrach; KOSSAKOVSKAYA, A.T.,
vrach; PYL'TSOVA, A.M., vrach; SOLOHOVICH, A.G., vrach; CHERNAYA, A.V.,
vrach; SAPUNOVA, Ye.A., medsestra.

Overcome shortcomings in hospital construction. Gor.khoz.Mosk. 27 no.11:4-5
N '53. (MIRA 6:11)

1. Moskovskaya 2-ya klinicheskaya infektsionnaya bol'nitsa.
(Moscow--Hospitals)

MARGULIS, A.Sh., prof.; BLESHEKOV, A.M.; LOSKUTOV, F.A.; BARGOL'TS,
S.B.; FILATOV, N.L.; KOROTKOVA, L., red.; MAZURKEVICH, M., red.;
LEBEDEV, A., tekhn. red.

[Economic evaluation of the work of industrial enterprises based on
their accounting records] Ekonomicheskii analiz raboty predpriatii;
po dannym ucheta i otchetnosti. Avtorskii kollektiv pod rukovodstvom
A.Sh.Margulisa. Moskva, Gosfinizdat. Pt.2. 1961. 315 p.

(MIRA 15:6)

(Industrial management) (Accounting)

LOSKUTOV, F. M

DECEASED
1962

1963/
4

Metallurgy

G. M.
POPOV, Ye. P.; ~~LOSHKOV, G. E.~~ YUSU'OV, R. M.

"On Self-Adjusting Control Systems Without Searching Tentative Action."

Paper to be presented at the IFAC Congress, to be held in
Basel, Switzerland, 27 Aug to 4 Sep 63

L 04993-57 - EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) GD

ACC NR: AT6016441 (A) SOURCE CODE: UR/0000/65/000/000/0338/0350

AUTHOR: Popov, Ye. P.; Loskutov, G. M.; Yusupov, R. M.

46
B+1

ORG: none

TITLE: On self-adjusting control systems without test perturbation effects

SOURCE: International Federation of Automatic Control. International Congress. 2d, Basel, 1963. Diskretnyye i samonastroyayushchiyesya sistemy (Discrete and adaptive systems); trudy kongressa. Moscow, Izd-vo Nauka, 1965, 338-350

TOPIC TAGS: automatic control theory, self adaptive control, optimal automatic control

ABSTRACT: A self-adjusting control system is one which during operation (1) determines the dynamic characteristics of the system by automatic search or calculates them from measurements; (2) by some test determines the adjustment, parameters, or regulator structures necessary for standardizing (or optimizing) the system; and (3) carries out the adjusting, parameter, or regulator structure values derived. The literature contains very little information on the synthesis and analysis of self-adjusting control systems for essentially stationary plants, while the drawback of many proposed systems is that special test signals must be used

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L 04993-67

ACC NR: AT6016441

to check dynamic characteristics of the signal. The present authors propose one of the possible principles for creating a self-adjusting control system for a certain class of nonstationary plants. The chief merit of the principle is that it can take into account conditions both internal (system parameters) and external (noise and control effects) in system operation. The report gives only the basic features of the proposed principle of designing a self-adjusting control system, but it is to be hoped that this principle can be applied in many cases where it is desirable to use natural oscillations of a system without introducing perturbing test signals. The general case and several particular cases are studied and some of the points involved are discussed. Orig. art. has: 28 formulas and 2 figures.

SUB CODE: 09, ¹³ / SUBM DATE: 29Sep65/ ORIG REF: 006

Card 2/2 *hdh*

Loskutov, G. V.

USSR/Miscellaneous--Machine tools

Card 1/1 Pub. 103 - 12/23

Authors : Loskutov, G. V.

Title : ~~Support for cutting tools~~
Support for cutting tools

Periodical : Stan. i instr. 2, pg. 32, Feb 1954

Abstract : A jack-like contrivance for the support of cutting tools improvised by workman Z. A. Khaykin and D. I. Kardapolov is briefly described. In addition to the cutting operation the device can also find application during the machining of objects the configurations of which allow the use of cutters of greater sweep, e. g. machining of crankshaft necks. The mechanical and economical advantages of the contrivance are listed. Drawings.

Institution :

Submitted :

USSR/Engineering - Dies

Card 1/1 : Pub. 128 - 26/38

Authors : Loskutov, G. V.

Title : Fixture for machining the slot in the actuating key of an eccentric press

Periodical : Vest. mash. 9, 83-84, Sep 1954

Abstract : A description is presented of a fixture, designed by R. P. Postikov, for turning lathes which permits simultaneous machining of slots on six actuating keys of an eccentric press. Drawings.

Institution :

Submitted :

LOSKUTOV, G.V., inshener.

Device for improving a rigid and durable hold of a tool. Vest.mash.34
no.4:75-76 Ap '54. (MLRA 7:5)
(Machine tools)

USSR/ Engineering-Tools

Card : 1/1

Authors : Loskutov, G. V., Engineer

Title : Machinist, A. P. Van'kurov's radius cut-off tool

Periodical : Vest. Mash. 34/5, 55 - 57, May 1954

Abstract : The shortcomings of present cutters, such as deformation of the work through bending of the tool, are reviewed. Van'kurov's innovation consists of using a tool of high-speed steel, sharpened on a radius in accordance with a special design. By this method the rate of feed has almost been tripled. Table; drawings.

Institution :

Submitted :

LOSKUTOV, I. P.

PONOMAREV, A.I.; OSTROUMOV, E.A., doktor khimicheskikh nauk, redaktor;
LOSKUTOV, I.P., redaktor; NEVRAYEVA, N.A., tekhnicheskiy redaktor.

[Methods of chemical analysis of minerals and rocks] Metody khimicheskogo analiza mineralov i gornykh porod. Moskva, Izd-vo Akademii nauk SSSR. Vol.2 [Iron ores, titanomagnetites and chromites] Zheleznyerudy, titanomagnetity i khromity, 1955. 343 p.
(Iron ores) (Chromites) (MLRA 8:11)
(Titanomagnetites)

LOSKUTOV, K.; ZOLOTUKHIN, P., aviatekhnik

Our experience in the use of a motor winch. Kryl.rod. 10 no.3:
18-19 Mr '59. (MIRA 12:4)

1. Nachal'nik planernoy stantsii g. Yoshkar-Ola (for Loskutov).
2. Planernaya stantsiya g. Yoshkar-Ola (for Zolotukhin).
(Gliding and soaring)

LOSKUTOV, K.; ZOLOTUKHIN, P.

Chassis for the A-I glider. Kryl.rod. 4 no.8:9 Ag '53. (MLBA 6:7)
(Gliders (Aeronautics))

LOSKUTOV, K.; BONDARENKO, N., instruktor-letchik; ZOLOTUKHIN, P., avia-
tekhnik

Some problems in elementary training of glider pilots. Kryl.rod.
6 no.8:7 Ag'55. (MLRA 8:10)

1. Nachal'nik Yoshkar-Olinskoy planerney stantsii (for Loskutov)
(Gliding (Aeronautics))

AID P - 4716

Subject : USSR/Aeronautics - Civil Aviation (glider stations)

Card 1/1 Pub. 58 - 11/14

Author : Loskutov, K., Head of the Glider Station, Yoshkar-ola

Title : Glider-pilots of Yoshkar-ola

Periodical : Kryl. rod., 6, 16-18, Je 1956

Abstract : The author describes the activities of the glider station of Yoshkar-ola (Mariyskaya ASSR). Different modes of launching the gliders are discussed in some length. Improvements made in the details of the construction of Gliders A-1 and BRO-9 are indicated. One photo.

Institution : None

Submitted : No date

LOSKUTOV, K.

Gliding clubs instead of glider stations. Kryn.rod. 11
no.9:12-13 S '60. (MIRA 13:9)

1. Nachal'nik Yoshkar-Olinskoy planerney stantsii.
(Gliding and soaring)

24(3), 24(4)

AUTHOR: Loskutov, K.N.

SOV/139-59-1-16/34

TITLE: On the Effect of Ultraviolet Radiation on the Photoconductivity of Silver Bromide Crystals (O vliyanii ul'trafioletovoy podsvetki na fotoprovodimost' kristallov bromistogo serebra)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1959, Nr 1, pp 97-101 (USSR)

ABSTRACT: Putseyko and Terenin (Ref 1) found that, if crystals of thallium halides are illuminated with modulated visible light and continuous ultraviolet radiation of $\lambda=365$ m μ , then the periodic photoeffect is intensified. Putseyko and Meyklyar (Ref 2) found the same effect in silver bromide and chloride in experiments on photoconductivity and photoeffect. The present paper reports studies of this effect on silver bromide crystals prepared by allowing the molten salt to flow into a space between two glass plates. After solidification, one of the glass plates was removed and the crystal was illuminated with modulated visible light from a double monochromator, produced in the experimental workshops of the Leningrad State University. A stabilized incandescent lamp of

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SOV/139-59-1-16/34

On the Effect of Ultraviolet Radiation on the Photoconductivity of Silver Bromide Crystals

500 W was used as a source of light. The light beam was modulated by means of a rotating disc with apertures. Continuous irradiation with $\lambda = 365 \text{ m}\mu$ was produced by means of a mercury lamp PRK-4, and this ultraviolet light fell on the side of the crystal opposite to that illuminated with modulated visible light. The intensity of ultraviolet radiation was controlled by varying the current through the mercury lamp and adjusting an iris diaphragm between the mercury lamp and the sample. The ultraviolet intensity was measured by means of a selenium photoelement. Photoconductivity was measured by means of an a.c. amplifier. The author describes first the volt-ampere characteristics of silver bromide obtained in fields up to 100 V/cm. Linear and, in some cases, concave downwards volt-ampere characteristics were obtained; two typical curves obtained without ultraviolet irradiation are shown as continuous lines in Fig 1. On ultraviolet irradiation the volt-ampere characteristics were shifted to new positions shown by dashed lines in Fig 1. Ultraviolet radiation did not produce the same results in all crystals. In some of them the photocurrent

Card 2/5

SOV/139-59-1-16/34

On the Effect of Ultraviolet Radiation on the Photoconductivity of Silver Bromide Crystals

rose on irradiation, in others (approximately half of about 100 samples studied) it fell. The effect of ultraviolet radiation was greatest when photoconductivity due to visible modulated light was smallest. The effect of ultraviolet radiation was expressed in terms of a ratio $\Delta J/J_0$, where ΔJ is the increase of photocurrent due to ultraviolet radiation and J_0 is the photocurrent due to modulated light by itself. Figs 2 and 3 show the spectral distributions of photoconductivity due to modulated light by itself (continuous curves), and due to modulated light and ultraviolet irradiation (dashed curves) as well as the wavelength dependence $\Delta J/J_0$ (chain curves). Figs 2 and 3 show clearly that ultraviolet radiation may decrease or increase the photoconductivity. Fig 4 shows the dependence of $\Delta J/J_0$ on J_0 ; the curve of Fig 4 indicates that with increase of the photocurrent intensity the positive effect of ultraviolet irradiation decreases and the negative effect increases. The effect of the intensity of the ultraviolet radiation itself on the change in photoconductivity which it

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SOV/139-59-1-16/34

On the Effect of Ultraviolet Radiation on the Photoconductivity of Silver Bromide Crystals

produces is shown in Fig 5. The results plotted in Fig 5 are obtained for the same wavelength of modulated visible light. The region A in Fig 5 represents the positive effect of ultraviolet radiation (increase of the photocurrent, shown in Fig 2), and the region B represents the negative effect (corresponding to the middle portion of Fig 3). The author concludes that the negative effect of ultraviolet radiation occurs in all crystals, but to observe this effect in some crystals one would require very high intensities of the modulated light beam and the ultraviolet radiation. To explain the observed effects the author suggests that the ultraviolet radiation increases the quantum yield of photoconductivity and simultaneously shortens the "displacement" of photoelectrons. At low photoconductivities the increase of the quantum yield predominates and the photoconductivity arises. At high photoconductivities the degree of the photoelectron "displacement" predominates over the

Card 4/5

SOV/139-59-1-16/34

On the Effect of Ultraviolet Radiation on the Photoconductivity of Silver Bromide Crystals

quantum yield rise. Acknowledgement is made to P.V. Meyklyar for suggesting this subject and for his advice.

There are 5 figures and 5 references, 4 of which are Soviet and 1 German.

ASSOCIATION: Permskiy Pedinstitut (Perm' Pedagogical Institute)

SUBMITTED: October 13, 1958

Card 5/5

94.2430

39119
S/058/62/000/006/043/136
A061/A101AUTHOR: Loskutov, K. N.

TITLE: On the reflection factor of silver bromide crystals

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 1 - 2, abstract 666
("Uch. zap. Permsk. gos. ped. in-t", 1961, no. 28, 161 - 166)

TEXT: The spectrum of the total reflection of AgBr single crystals has been studied in the range of 400 - 600 $m\mu$. The result is represented graphically. The reflection maximum in the spectrum is observed at 480 $m\mu$, where it attains 23% (18% at 410 $m\mu$, and 21% at 600 $m\mu$). Spectra obtained at 19 and 50°C coincide. The measurement accuracy is 2 - 3%. A double monochromator of LGU, featuring an added MgO-cured integrating sphere, was used for the measurements. A ФЭУ-22 (FEU-22) photomultiplier was the receiver. ✓

L. Kislovskiy

[Abstracter's note: Complete translation]

Card 1/1

LOSKUTOV, K.N.

Effect of ultraviolet light on the photoconductivity of AgBr. Uch.
zap.Ped.inst.Gerts.no.207:252-253 '61.

(MIRA 16:5)

1. Permskiy gosudarstvennyy pedagogicheskiy institut.
(Silver bromide crystals) (Ultraviolet rays) (Photoconductivity)

L 6740-65 EWT(l)/EWG(k)/EWT(m)/EEC(t)/EMP(q)/EWP(b) Pz-6 IJP(c)/AFTC(a)/SSL/
AFETR/ASD(a)-5/AFWL/RAEM(l)/AS(mp)-2/ESD(t)/RAEM(t)/ESD(gs) AT/JD/JG
ACCESSION NR: AP4043876 S/0139/64/000/004/0143/0146

AUTHOR: Loskutov, K. N.

70
64

TITLE: On the question of excitation and extinction of photocon-
ductivity in AgBr single crystals

SOURCE: IVUZ. Fizika, no. 4, 1964, 143-146

TOPIC TAGS: photocurrent carrier, ultraviolet irradiation, silver
halide recording medium, quantum yield, photoconductivity, elec-
tronic transition

ABSTRACT: The author presents a semiquantitative explanation of the
influence of a constant exposure to ultraviolet on the photoconduc-
tivity of AgBr crystals due to intermittent illumination, an in-
fluence which was observed by the author in an earlier investigation
(Izv. vuzov SSSR, Fizika, no. 1, 97, 1959). The various electronic
transitions that can occur for AgBr crystals are listed, and the

Card 1/2

L 6740-65

ACCESSION NR: AP4043876

degree to which these transitions are excited by modulated long-wave light and by constant ultraviolet light is discussed. It is shown that the effect produced by the constant ultraviolet illumination depends appreciably on the ratio of the intensities of the modulated light to the ultraviolet light. Orig. art. has: 2 figures and 13 formulas.

ASSOCIATION: Permskiy politekhnicheskiy institut (Perm Polytechnic Institute)

SUBMITTED: 20Jul62

ENCL: 00

SUB CODE: OP, EA

NR REF SOV: 008

OTHER: 001

Card 2/2

L 25471-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) AT/JD/JG

ACC NR: AF6009694

SOURCE CODE: UR/0181/66/008/003/0959/0961

AUTHOR: Loskutov, K. N.

55

ORG: Perm' Polytechnic Institute (Permskiy politekhnicheskiy institut)

B

TITLE: Quantum yield of internal photoeffect in single-crystal AgBr

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 959-961 18 27 27

TOPIC TAGS: internal photoeffect, quantum yield, single crystal, silver compound, photosensitivity, photoconductivity

ABSTRACT: In view of the importance of the quantum yield for silver halides, in connection with the theory and practice of photographic sensitivity, the author presents the results of determination of the quantum yield of the internal photoeffect in single crystals of AgBr grown by the method proposed by V. K. Subashiyev (FTT v. 6, 1956, 1964). The photoconductivity in the visible region was measured by a method described in an earlier paper by the author (Izv. Vuzov SSSR, Fizika, No. 1, 97, 1959). This method yields the absolute values of the yield from the spectral dependence of the photoconductivity. It is shown that in the case of thick crystals ($kd \geq 4$, where k is the absorption and d the thickness of the crystal), the method reduces to the plotting of a simple curve involving the measured stationary photoconductivity signal obtained when the sample is illuminated with a modulated beam of light. The investigation yields a plot of the quantum yield against the wavelength, which shows that with decreasing wavelength the quantum yield for AgBr increases from 0.22 at 450 nm

Card 1/2

L 25471-66

ACC NR: AF6009694

0

to 1 at 350 nm, the rate of increase being somewhat different in the visible and ultraviolet regions. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20/ SUBM DATE: 07Jun65/ ORIG REF: 007/ OTH REF: 003

Card 2/2 C.C.

ACC NR: AP6013471

SOURCE CODE: UR/0139/66/000/002/0163/0164

AUTHOR: Loskutov, K. N.

ORG: Perm' Polytechnic Institute (Permskiy politekhnicheskiy institut)

TITLE: Change of quantum yield of the internal photoeffect in single crystals of AgBr under the influence of additional ultraviolet illumination

SOURCE: IVUZ. Fizika, no. 2, 1966, 163-164

TOPIC TAGS: quantum yield, internal photoeffect, uv irradiation, spectral distribution, photoconductivity, absorption coefficient, light reflection coefficient, silver compound, bromide, photoeffect

ABSTRACT: This is a continuation of earlier work (Izv. vuzov SSSR, Fizika, no. 1, 97, 1959), where it was observed that constant ultraviolet additional illumination can either intensify or attenuate the photoconductivity of AgBr single crystals, and an elaboration of the explanation of this phenomenon was given by the author later (Izv. vuzov SSSR, Fizika, no. 4, 144, 1964). In the present article data are presented on the influence of ultraviolet illumination on the quantum yield of the photoeffect in AgBr, obtained by directly calculating the quantum yield both for the case of illumination with modulated light only, and for the case of simultaneous illumination with modulated and constant light. The quantum yield was calculated from the spectral distribution of the photoconductivity by a method proposed by V. K. Subashiyev (FTT v. 6, 1956, 1964). To determine the quantum yield by this method, it is necessary to know not only the stationary photoconductivity but also experimental

Card 1/2

L. 36514-56

ACC NR: AF6013471

values of the absorption coefficient and of the reflection coefficient for each wavelength. The photoconductivity was measured in the visible part of the spectrum by the method described in the earlier paper, the absorption coefficient was taken from a paper by V. P. Meyklyar (FTT v. 4, 148, 1962), and the procedure for measuring the reflection coefficient was described by the author earlier (Uch. zapiski Permskogo pedagogicheskogo institute, no. 28, 161, 1961). The results confirm the earlier assumption that the quantum yield of the photoeffect in the visible region can be increased by additional ultraviolet illumination. Orig. art. has: 1 figure and 2 formulas.

SUB CODE: 20/ SUBM DATE: 12Mar65/ ORIG REF: 007

Card 2/2mlp

LOSKUTOV, M. I. Cand Med Sci -- (diss) "Comparative evaluation of the effectiveness of transvesical suprapubic and extravesical retropubic methods of prostatectomy ^{diversa hypertrophie della} ~~in cases of~~ prostate ^{gland} hypertrophy." Smolensk, 1958. 19 pp (Min of Health RSFSR. Smolensk State Med Inst), 220 copies (KL, 36-58, 115)

-79-

LOSKUTOV, I.G.; CHINSKIY, V.I.

Automation of hydrogen chloride production. Biul. tekhn.-ekon. inform.
Gos. nauch.-issl. inst. nauch.i tekhn. inform. 18 no.6:10-11 Je '65.
(MIRA 18:7)

IOSKUTOV, M. I.

Limits and methods of adenomectomy in adenoma of the prostate.
Urologiia 23 no.4:42-45 J1-Ag '58 (MIRA 11:8)

1. Iz kafedry obschey khirurgii (zav. - prof. G.G. Dubinkin)
Smolenskogo meditsinskogo instituta.

(PROSTATE, enoplasms
adenoma, surg., limits & methods (Rus))

(PROSTATE HYPERTHOPHY, surgery,
(Rus))

(PROSTATECTOMY
adenomectomy, technics (Rus))

LOSKUTOV, M.I., dotsent

Diagnosis and treatment of sarcoma of the prostate. Urologia
no.3:61-63 '62. (MIRA 15:5)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.G. Dubinkin)
Smolenskogo meditsinskogo instituta.
(PROSTATE--CANCER)

LOSKUTOV, M.I., dotsent

Favorable outcome of the treatment of mesenteric thrombosis.
Trudy SMI 17:3-9 '63. (MIRA 18:1)

1. Iz kliniki obshchey khirurgii (zav. prof. G.G. Dubinkin)
Smolenskogo gosudarstvennogo meditsinskogo instituta.

LOSKUTOV, M.I., dotsent

Giant elephantiasis of the scrotum in an adolescent. Urologia
28 no.3:57-59 '63 (MIRA 17:2)

1. Iz kliniki obshchey khirurgii (zav. - prof. G.G.Dubinkin)
Smolenskogo meditsinskogo instituta.

PIVOVAROV, A.V.; LOSKUTOV, N.P.

Use of the "single line" method in plotting the characteristic
curves of photographic emulsions. Zav.lab. 26 no.12:1379 '60.
(MIRA 13:12)

1. Kazakhskiy institut mineral'nogo syr'ya.
(Photographic emulsions)

LOSUTOV, P.I.

How we got ready for winter. Avtom., telem. i sviaz' no.1:27-28
Ja '57. (MLRA 10:4)

1. Nachal'nik Novosibirskoy distantsii signalizatsii i svyazi Tomskoy
dorogi.

(Railroads--Signaling)

LOSKUTOV, V., inzh.

Innovation has been introduced but remuneration has not been granted.
Izobr.i rats. no.5:30 My '60. (MIRA 14:2)

1. Trest "Magnitostroy."
(Magnitogorsk--Technological innovations)

LOSKUTOV, V.; FEDORCHENKO, A.

For wide use of devices for the establishment of technical
standards. Sots.trud 5 no.2:87-92 F '60. (MIRA 13:6)
(Production standards) (Measuring instruments)

LOSKUTOV, V.

Planned work. NTO 3 no.6:46 Je '61. (MIRA 14:6)

1. Zamestitel' predsedatelya soveta nauchno-tekhnicheskogo obshchestva tresta "Magnitostroy", g. Magnitogorsk.
(Magnitogorsk--Steelworks)

LOSKUTOV, V.

There are many interesting tasks in store for us. Sov. foto 22
no.12:39 D '62. (MIRA 16:1)

1. Sekretar' pravleniya fotokluba pri Pravoberezhnom dvortse
metallurgov, Magnitogorsk.

(Magnitogorsk—Photography—Societies, etc.)

LOSKUTOV, V. (Magnitogorsk)

Inspection of photographic studios. Sov. foto 23 no.6:25 Je '63.
(MIRA 16:7)

(Photography—Studios and dark rooms)

FEYGIN, M.M.; MASHKOVICH, A.M.; LOSKUTOV, V.A.; OSINNYKH, V.Ya.

Four-position device for removing burrs from plastic parts.
Mashinostroitel' no.1:25 Ja '63. (MIRA 16:2)
(Grinding machines)

LOSKUTOV, V.A.

Universal die for upsetting heads. Mashinostroitel' no.12:21
D '61. (MIRA 14:12)

(Dies(Metalworking))

KAPRANOV, V.N.; LOSKUTOV, V.A.; FEYGIN, M.M.; OSINNYKH, V.Ya.

Device for cleaning metallic reinforcements. Mashinostroitel' no.2:20
F '63. (MIRA 16:3)

(Metal cleaning)

LOSKUTOV, V.A.; FEYGIN, M.M.; OSINNYKH, V.Ya.

Semiautomatic machine for cleaning plastic articles.
Mashinostroitel' no.9:8-9 S '63. (MIRA 16:10)

(Plastics machinery)

ACC INR 170011990 (77) SOURCE CODE: 01/0413/00/000/010/0010/0010

AUTHOR: Loskutov, V. A.; Prikhozhiy, B. I.

ORG: None

TITLE: A device for installation and removal of large stamps on presses. Class 7, No. 181602

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 18

TOPIC TAGS: metal press, industrial automation

ABSTRACT: This Author's Certificate introduces: 1. a device for installation and removal of large stamps on presses. The unit contains a lifting platform and an attachment for transferring the stamp from the platform to the press. Accurate installation of the stamp on the press is ensured by a beam mounted on the lifting platform for moving the stamp along a roller conveyor in the platform and the backup plate in the press. This beam is equipped with a drive and a mechanism for centering and fastening the stamp on the roller conveyor. Also mounted on the platform is a mechanism for orienting the roller conveyor with respect to the press. 2. A modification of this device in which provision is made for lining up the axes of the stamp and roller conveyor while the stamp is in motion. The drive for the beam contains a transmission mechanism, e. g. a chain drive system combined with bevel and screw gears equipped with

Card 1/2

UDC: 621.983:621.979-783.65

ACC NR: AP6017956

a slip clutch which transmits reciprocal motion through lead screws. The beam has holding devices, one with a left hand thread and the other with a right hand thread mounted so that they move along a horizontal screw with double right and left hand thread. 3. A modification of this device in which provision is made for matching the axes of symmetry of the stamp and press. The mechanism for orienting the roller conveyor is made in the form of fingers mounted on a frame. These fingers go into holes in the backup plate on the press which is equipped with clamps to fit over the fingers and fix the position of the platform with respect to the press.

SUB CODE: 13/ SUBM DATE: 27Jan62

Card 2/2

1956-1960, 110
BELOV, N.S.; BIRYUKOV, I.V.; VERBLYUDOV, N.N.; GORBUNOVA, M.N.; YESIPOVA, M.M.;
IL'ICHEV, A.I.; IGNAT'YEVA, N.Ya.; KOVACHEVICH, P.M.; LYTKIN, A.M.;
LOSKUTOV, V.G.; MAZYUKOV, A.S.; MIROSHICHENKO, N.Ya.; NEFEDOV, A.Ya.;
OSIPOV, K.V.; OSIPOV, P.M.; PETROV, N.G.; PETRACHKOV, M.I.;
PINEVICH, K.M.; POPOV, B.E.; POTAPOV, P.V.; PREEDEIN, F.Ye.; PUKHOV, A.F.;
CHUSOVITINA, Ye.I.; ANGEL'SKIY, N., tekhn.red.

[The Kuznetsk Basin in the sixth five-year plan] Kuzbass v shestoi
piatiletke. [Kemerovo] Kemerovskoe knizhnoe izd-vo, 1956. 125 p.
(MIRA 10:12)

(Kuznetsk Basin)

LOSKUTOV, V.I.

USM grid electric integrator for solving problems of underground hydraulics in petroleum production. Neft. khoz. 41 no.4:24-31
Ap '63. (MIRA 17:10)

LOSKUTOV, V. I.

Determination of pressures in a pulsating flow. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952. 87 p. (54-18349

TJ955.L6

1. Air-pumps. 2. Manometer.

LOSKUTOV, V.I.

3513. LOSKUTOV, V.I. Opytraboty. Talovskoy Oporno-Pokazatel'noy MTS. Voronezh, Kn 12 D., 1954. 48. (7) s.s. ill. 20sm (Peredoviki Sel'skogo Khozyaystva Voronezhskog Obd.) 3,000 ekz. 80k.—(54-57989) P. 338.1 Mts (47.396)

SO: Knizhnaya Letopis', Vol. 3, 1955

LOSKUTOV, V. I.

MIRONOV, K.A.; SHIPETIN, L.I.; LOSKUTOV, V.I., kandidat tekhnicheskikh nauk, retsenzent; LUKIN, V.P., redaktor.

[Thermotechnical measuring instruments] Teplotekhnicheskie izmeritel'nye pribory; spravochnye materialy. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 497 p. (MLRA 7:8)
(Measuring instruments)

LOSKUTOV, V.I.; kandidat tekhnicheskikh nauk; YAKOBSON, B.M., inzhener,
retsensent; SHENDLER, Yu.I., kandidat tekhnicheskikh nauk, redaktor;
POPOVA, S.M., tekhnicheskiiy redaktor

[Laboratory apparatus for measuring liquid and gas consumption]
Laboratornye pribory dlia izmereniia raskhoda zhidkostei i gazov.
Izd. 2-oe, ispr. i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
stroit. lit-ry 1955. 253 p. (MIRA 9:7)
(Flowmeters)

Loskutov, V. I.

AUTHOR: Loskutov, V. I.

119-1-2/13

TITLE: Mathematical Machines for the Solution of the Problems of Underground Hydraulics in Oil-Producing Industry (Matematicheskaya mashina dlya resheniya zadach podzemnoy gidravliki v neftedobyvayushchey promyshlennosti)

PERIODICAL: Priborostroyeniye, 1958, Nr 1, pp. 4-9 (USSR)

ABSTRACT: The selection of the most favorable position of a lift frame, the determination of the extent and limitation of irrigation, the study of the distribution of oil-containing layers, the determination of mutual connections between drill-holes, all this wants difficult and tedious calculations.

Until now these problems have been solved by means of approximation methods, certain conditions having had to be made, especially because of the boundary conditions.

Now for the solution of many of these problems, which belong to underground hydraulics, a special mathematical machine was developed. This machine, type ЭИ -С was put to work and operates according to the electric model principle.

The differential equations occurring are solved by connecting, according to choice, systems of wire-resistances

Card 1/3

Mathematical Machines for the Solution of the Problems of
Underground Hydraulics in Oil-Producing Industry

119-1-2/13

capacitances and inductances, and then measuring the distribution of voltage and current, respectively in this system. As furthermore a "logic" brain is built-in in this machine, which can store up to 30.000 parameter values, any problem with new initial conditions or boundary conditions, respectively can easily be repeated.

For taking-in initial- and boundary conditions a special 750-channel system (with valves) was developed. Each of these channels can be included into the calculation operations as often as wanted and at any time (according to a time plan).

In order to guarantee the greatest possible security in the operation of the machine the functional blocks as well as the supplementary apparatus are equipped with an automatically operating error-signal-station which indicates where an error had been caused.

For the solution of the hitherto greatest problem the machine needs about 60 KW of power.

In normal operation the machine needs 6-8 operators, the program designer being included. There are 8 figures.

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Mathematical Machines for the Solution of the Problems of
Underground Hydraulics in Oil-Producing Industry

119-1-2/13

AVAILABLE: Library of Congress

1. Hydraulics 2. Mathematical computers-Application

Card 3/3

AUTHOR: Loskutov, V.I. 119-58-4-1/15

TITLE: Automatic Control by Mathematical Machines of Locomotive Train Operations. (Avtomaticheskoye upravleniye poyezdnoy rabotoy lokomotivov pri pomoshchi matematicheskikh mashin)

PERIODICAL: Priborostroyeniye, 1958, Nr 4, pp. 1-5 (USSR)

ABSTRACT: Control is carried out in such a manner that the differential equation of motion of the locomotive for the distance to be covered by it is solved by the computer and that, on the strength of such solutions, the locomotive is adjusted to the most favorable driving. The block diagram of the "artificial engine driver" is as follows: Computation block - control block - feed block - operation block - "programming block" for scanning the distance to be covered - "programming block" for the limitation of speed - automatic signal receiver.

In November 1957 such an artificial engine driver was tested on a self-propelled car on the line leading from Kuybyshev to Bezmyanka.

Card 1/2

The "engine driver" automatically regulated the various speeds

Automatic Control by Mathematical Machines of Locomotive
Train Operations.

119-58-4-1/15

according to the speed schedule. Also stopping by means of a
braking process in two stages was carried out by this artificial
"engine driver".

On the basis of the curves obtained the operation of the entire
scheme can be accurately followed.

At present the model of the "engine driver" is taken apart and
all parts are once more examined. Following this, it will be sub-
jected to a durability test. There are 5 figures.

Card 2/2

LOSKUTOV, V. I.

"Mathematical and Control Machines in Rail Transportation," Zheleznodorozhnyy transport [Railroad Transportation], 1958, No. 7, Pages 48 - 53.

AUTHOR: Loskutov, V. I. SOV/119-58-8-1/16

TITLE: Cybernetics as a Means of Promoting Technical Progress
(Kibernetika na sluzhbe tekhnicheskogo progressa)

PERIODICAL: Priborostroyeniye, 1958, Nr 8 pp. 1 - 6 (USSR)

ABSTRACT: One of the possibilities of making use of applying cybernetics in practice has been realized by the mathematical machine "Strela" which is being produced in the USSR. A preliminary program of the tasks to be performed is automatically transformed on a special keyboard from a decimal - to a dual system. All data are fixed on a punch card. These data are taken over by the computing section by which they are passed on to the operative memory in form of electric pulses. From there commands are transmitted to the control center, where the operations transmitted according to program are arranged in their proper order. For this purpose an arithmetical machine, a block for standard programs, and the operative - and storage - memory (partly on magnetic tapes) are used. Intermediate results are again fed to the operative memory. After the second process of computing is completed, the final solution

Card 1/3

SOV/119-58-8-1/16

Cybernetics as a Means of Promoting Technical Progress

is produced in form of a table of numbers based on the decimal system.

A further form of applying cybernetics is the use of improved mathematical machines for the automatic control of production processes. In this case the operational scheme is approximately the following: The process of operation to be automatized must first be split up in form of a system of equations into the respective mathematical and logical algorithms. In this way the fundamental form is fixed. As soon as the dynamics of the process or operation changes, this change is taken up by transducers, fed into the machine, and worked out (by way of the information block to the transformer). At the same time, however, the said change or modification is stored for the purpose of a later control in the "memory". By the aid of this control block the pulses obtained are dealt with in their proper order by the automatic computer, and solutions are passed on in form of parameters (pulses) to the automatic device for comparing values. Here those parameters which are the most advantageous are selected and the "best" parameters are passed on to the control mechanism.

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A further form of application may be found in such apparatus

SOV/119-58-8-1/16

Cybernetics as a Means of Promoting Technical Progress

as model physiological functions as e.g., the electrosimulator for the investigation of metabolic functions and the electro-simulator for functional tests of the heart.
There are 3 figures.

1. Mathematical computers--Operation
2. Cybernetics--Applications
3. Recording devices--Performance
4. Control systems--Performance

Card 3/3

SCV/121-58-10-7/25

AUTHOR: Loskutov, V.I.
TITLE: ~~The Working Principle of the VPRR-2 Computer for~~
Determining the Cutting Conditions in Metal Cutting
Machine Tools (Osnovy raboty pribora VPRR-2 dlya
opredeleniya rezhimov rezaniya na
metalloobrabatyvayushchikh stankakh)
PERIODICAL: Stanki I Instrument, 1958, Nr 10, pp 20-22 (USSR)
ABSTRACT: The VPRR-2 computing device, development by the
Scientific Research Institute for Computer Engineering
(Nauchno-issledovatel'skiy institut schetnogo
mashinostroyeniya) is intended for the computation of
the cutting conditions in machining operations of
various metals. A brief description was given earlier
(Stanki i instrument, 1958, Nr 8, p 28) now followed
by a discussion of the working principles, circuits
and components. The device operates on the principle
of a compensated electrical network. Its purpose is
to solve a system of equations in which the rate of
feed, the rotational speed, the machining time, the
cutting speed and some special quantities are stated

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SOV/121-58-10-7/25

The Working Principle of the VPRR-2 Computer for Determining the Cutting Conditions in Metal Cutting Machine Tools

for each of the basic forms of machining (turning, milling and drilling) in terms of the cutting force, the diameter of the workpiece and of the cutter, the tool life between regrinds, certain constants representing the material of the tool and of the workpiece and other variables. The basis of the computer is a system of equations obtained by taking the logarithms of the original equations. Thus a system is obtained (equations 1) wherein each consists of a sum of terms equated to zero. Most of the terms are products of a variable and the logarithm of another variable. In the VPRR-2 device all the magnitudes are represented by electrical voltages, varied by means of potentiometers. Those quantities which enter with their logarithm are set up with the help of potentiometers having a special winding which yields a voltage equal to the logarithm of the displacement. Ordinary variables in the logarithmic equations, namely the exponents in the original equations are set up with the help of ordinary

Card 2/4

SOV/121-58-10-7/25

The Working Principle of the VPRR-2 Computer for Determining the Cutting Conditions in Metal Cutting Machine Tools

proportional potentiometers. The multiplying of two quantities is accomplished by a cascade unit consisting of two potentiometers. Thus, each term in the equations is represented by a voltage fed through a corresponding resistance to a common busbar, which is connected to the null indicator. By the compensation through the adjustment of one of the potentiometer sections, the current through the indicator can be made to vanish. This adjustment, indicated by a scale constitutes the solution of the equation. The device consists of seventeen potentiometer sections. The potentiometer units producing a logarithm and the product of a quantity

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SOV/121-58-10-7/25

The Working Principle of the VPBR-2 Computer for Determining the Cutting Conditions in Metal Cutting Machine Tools and a logarithm are illustrated (fig.4 and 5). The basic circuit of the complete unit is shown in Fig.3. There are 5 illustrations including 2 photos and 1 table.

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25(2), 28(2)

SOV/119-58-11-4/15

AUTHOR: Loskutov, V. I., Candidate of Technical Sciences

TITLE: Mathematical Machines and Their Importance for Science and Economy (Matematicheskiye mashiny i ikh znachenije dlya nauki i narodnogo khozyaystva)

PERIODICAL: Priborostroyeniya, 1958, Nr 11, pp 8-12 (USSR)

ABSTRACT: From the extent to which Soviet computers are being used the importance of these devices may be recognized:

1) Differential Analyzer :

This device consists of 24 integrators. Nearly all the blocks are automatized. This is the largest device of its kind.

Location: Kiyev University. Use: Solution of difficult problems of science and technology.

2) Electric Models

These models make the mathematical model-representation of various dynamical systems in the natural time-scale possible.

At present the following linear and nonlinear models are being produced in the USSR: IPT-4, IPT-5, MPT-9

MPT-11, MN-5, MN-7, MN-8 and others.

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3) Electointegrator EI-S

SOV/119-58-11-4/15

Mathematical Machines and Their Importance for Science and Economy

This device consists of a network of resistances and condensers with 20 000 tapping points. By means of this device the ~~Bylinskoye Oil Field~~ (Tatarskaya ASSR) was analyzed for the purpose of 1) obtaining an idea of the extent of oil deposits in the country, and 2) of determining the distribution of pressure at the place where oil was found if the height of boring towers is reduced by the half without causing a reduction of production figures.

4) Digital Computers "BESM"

This group comprises the machines "СТРЕЛА" (Strela), "УРАЛ" (Ural), "СІМ" (Sim), "ПОГОДА" (Pogoda) and "КРИСТАЛЛ" (Kristall). These devices perform up to 100 operations per second. A special machine is at present being built for a computing center; it will perform 20 000 operations per second.

A further machine with 2 000 - 2 500 single-bank operations per second is in the stage of being developed.

Computers, computing devices, mathematical machines, and mathematical devices will in future have to be used to an increased extent wherever a plurality of simple counting operations is necessary, and their summation, checking of

Card 2/3

SOV/119-58-11-4/15

Mathematical Machines and Their Importance for Science and Economy

intermediate balances, and storage of results is required. In a similar manner problems of financial administration, sales organizations, as well as problems of a statistical nature and transport problems can be solved by means of this machine. A further and very important field of application for these computers is the control of automatic systems, in which they serve as control elements. There are 3 figures and 9 references, 9 of which are Soviet.

Card 3/3

IOSKUTOV, V.I., kand. tekhn. nauk.

Automatic engineer. Avtom., telemekh. i svyaz' 2 no.11:8-11 N '58.
(MIRA 11:12)

(Railroads--Automatic train control)

LOSKUTOV, V.I., kand. tekhn. nauk

Calculating and regulating machines used in railroad transportation.
Zhel. dor. transp. 40 no. 7:48-53 J1 '58. (MIRA 11:7)
(Railroads--Electronic equipment)
(Electronic calculating machines)

ZHOKHOVSKIY, Mikhail Konstantinovich; LOSKUTOV, V.I., kand.tekhn.neuk,
retsenzent; VOLAROVICH, M.P., prof., doktor fiz.-materat.nauk,
red.; ALAVERDOV, Ya.G., red.izd-va; UVAROVA, A.F., tekhn.red.

[Theory and design of instruments with unsealed pistons] Teoriia
i raschet priborov s neuplotnennym porshnem. Moskva, Gos.nauchno-
tekhn.izd-vo mashinostroit.lit-ry, 1959. 203 p. (MIRA 12:12)
(Measuring instruments) (Pistons)

28(2)

AUTHOR: ~~Loskutov, V. I.~~, Candidate of Technical Sciences, Chief Specialist of the Gosplan USSR SOV/119-59-1-4/20

TITLE: The Near Future in Computing Technique
(Blizhaysheye budushcheye vychislitel'noy tekhniki)

PERIODICAL: Priborostroyeniye, 1959, Nr 1, pp 5-6 (USSR)

ABSTRACT: According to the 7-year plan the production of computing machines is to be increased by the 4.7 fold and amount to 2.1 billion rubles in 1965. In the near future rapidly operating machines will be produced in series and perform 5,000-20,000 operations per second. This means already a considerable success as compared to the figures 100 and 2000 which are characteristic of the machines "Ural" and "Strela", etc. Within 2-3 years, however, so great a progress must have been made that machines can be produced which perform 100,000 - 200,000 operations per second and which have a capacity of storing 8,000-32,000 figures. Particular attention deserve those machines which render possible an economical analysis of the process to be automatized. The best solution of this problem seems to be an intensified network of the mathematical computing centers over the whole country and to entertain a staff of qualified mathematicians

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The Near Future in Computing Technique

SOV/119-59-1-4/20

working with the most modern machinery in the mentioned centers. Mathematical control machinery has a great future. These machines are inserted in the automation system and can automatically control any complex dependence of the individual parameters of the process to be controlled and compute and (or) transmit the correct results through control signals with the necessary speed. Such machines are to be employed particularly in the fields of oil petroleum, chemical, and nonferrous metal industry as well as for technical problems of railway transport. As soon as the mathematical problems of the processes to be controlled are definitely worked out and as soon as it is possible to insert corresponding transducers into the course of the process there will be sufficient information for the control machine to guarantee an increased output and reduce the production cost simultaneously with an improvement of quality.

ASSOCIATION: Gosplan SSSR (Gosplan USSR)

Card 2/2

16(1)

SOV/119-59-9-1/19

AUTHOR:

Loskutov, V. I., Candidate of Technical Sciences

TITLE:

The Electro-mechanical Machine "Integral 1" for the Integration of Ordinary Differential Equations

PERIODICAL:

Priborostroyeniye, 1959, Nr 9, pp 1-6 (USSR)

ABSTRACT:

First an introductory on the historical development of the above type of machines, especially in tsarist Russia, is given. Thus, in 1911, the first differential analyser for the integration of ordinary differential equations up to the fourth order inclusively was constructed in Petersburg in the mechanical workshop of Vettser. In 1939 a mechanical differential analyser with 6 integrators was constructed under the direction of I. S. Bruk, Corresponding Member of the AS USSR, in the USSR. The most efficient machine of this kind is "Integral 1" which was developed and constructed in the Soviet Union and is at present in permanent use at the Kiyevskiy Gosudarstvennyy Universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko). This unique machine was developed under the supervision of A. A. Bednyakov, Engineer. "Integral 1" contains 24 integrators and is adapted for the mechanized solution of systems of ordinary differential equations with given initial

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The Electro-mechanical Machine "Integral 1" for
the Integration of Ordinary Differential Equations

SOV/119-59-9-1/19

conditions (as are found in the automatic control of production processes and in other branches of science and engineering). The precision attained with this machine equals that of the numeric integration using four-figure numbers. The parts of the "Integral 1" are listed. The structural scheme of the machine consists of 4 sectors which are controlled by a main switching board. Approximately 1 hour is required for the solution of one problem. Results of the solutions are ejected either as table of the required functions, or in graphical form. The minimum space required for the assembly of the of the machine is 250 m². Without wiring and feeding devices the machine has a total weight of 25 t. The power consumption is 100 kw. Each variable of the equation to be solved is represented in the appropriate scale by the angular displacement of a certain shaft. The differential analyser can be adapted to solve one or the other system of differential equations by suitable combinations of mathematical devices contained in the machine. The functions appearing in the equations may be given graphically or be determined by integration of auxiliary differential equations. By means of an integrator of the type described here, integration may be carried

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The Electro-mechanical Machine "Integral 1" for
the Integration of Ordinary Differential Equations

SOV/119-59-9-1/19

out with respect to any variable, which increases the mathematical possibilities of this machine considerably. In the differential-integrator described here the functions are integrated by means of a friction mechanism (integrator). Special blocks and devices are used for the introduction of the necessary constants into the differential equation and for the performance of algebraic operations involving variable quantities. Reducers are used for the multiplication of quantities with constant coefficients, and also for other operations. The individual parts of the machine are then discussed. Solutions of the problems solved by means of the differential analyser may be determined in graphical form or in the usual numerical manner. The machine described here does not replace the universal electronic machines, but complements the computers available at present. There are 7 figures and 1 table.

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18 (5)

SOV/128-59-11-10/24

AUTHOR: Loskutov, V.I., Candidate of Technical Sciences

TITLE: Computer for Estimating Cupola Charge

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 11, pp 19-20 (USSR)

ABSTRACT: Cast iron castings make about 80% of all castings produced. Simplicity of manufacture, low costs and their mechanical properties ensure for the cast iron industry a leading role. In order to obtain the proper kind of cast iron in each individual case, the chemical composition of the initial material (charge) from which castings are made has to be considered. For this purpose, a computing machine has been developed. Its operation is based on the assumption that the most complex charge consists of 9 chemical elements: carbon, silicon, manganese, phosphorus, sulphur, chrome, titanium, nickel and copper. On the other hand, cupola production chiefly encompasses the following sorts of metal: ferrosilicon, side iron scrap, forging iron, foundry iron, foundry iron of another brand, alloyed foundry iron.

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SOV/128-59-11-10/24

Computer for Estimating Cupola Charge

dry iron, alloyed foundry iron of another brand, scrap iron proper and scrap steel. On page 19, the author gives 10 formulae by means of which the chemical composition of the charge can be determined, depending on the product to be obtained. Photographs of the computer and its internal structure are given in Figs 2, 3 and 4. There are 1 table, 1 diagram and 3 photographs.

Card 2/2

LOSKUTOV, V.

Cybernetics in the service of technical developments. Tr. from the Russian. p.293

MERES ES AUTOMATKIA. (Merestechnikai as Automatizalasi Tudomanyos Egysulet)
Budapest, Hungary. Vol. 7, no. 10, 1959

Monthly List of East European Accession (EEAI) LC, Vol. 9. no. 1, Jan. 1960

Uncl.

S/128/60/000/005/001/004
A104/A126

AUTHOR: Loskutov, V. I.

TITLE: Computer for the calculation of thermal operating conditions in cupola furnaces

PERIODICAL: Liteynoye proizvodstvo, no. 5, 1960, 12-13

TEXT: The article describes a computer for the calculation of thermal operating conditions in cupola furnaces, designed by the Tbilisskiy nauchno-issledovatel'skiy institut priborostroyeniya i sredstv avtomatizatsii (TNIISA) (Tbilissi Scientific Research Institute of Instruments and Automation). The computer helps to determine the fuel consumption and to adjust the required air blast in the furnace. The equipment consists of two functional computer units, the first calculates the coke consumption at given temperatures of the liquid cast iron and the composition of flue gases. The consumption is done with the formula:

$$P = 8 + \frac{\text{arc tg } 2.16 \left[\frac{60}{1,500-t} \frac{\text{CO}_2}{100} - 0.4 \right]}{7.5}$$

The second unit calculates the air consumption based on the amount of flue

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Computer for the calculation of...

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A104/A126

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gases. The calculation is done with the formula:

$$\bar{W} = 200 - 3 \frac{20 - P}{\frac{CO_2}{100} - 0.4},$$

where P - indicates the coke consumption in kg; ω - the amount of air to be blown in; CO₂ - percentage of carbon dioxide in flue gases; and t - given temperature of liquid cast iron at the cupola spout. The cupola temperature is controlled by a system of measuring instruments comprising a photoelectric color pyrometer and an optical-acoustic pyrometer. Initially the computer will be used as an aid to select and maintain proper casting conditions. However, the functional unit scheme foresees direct input of initial calculation data through appropriate converters from pickups. This will improve the operation of the computer and enable the personnel to correct immediately every deviation from the norm. At the same time the TNIIISA completed a model containing two computers, one for the calculation of the thermal operating conditions of the cupola furnace and one for the calculation of the cupola furnace charge. There is 1 photo.

Card 2/3

Computer for the calculation of...

S/128/60/000/005/001/004
A104/A126

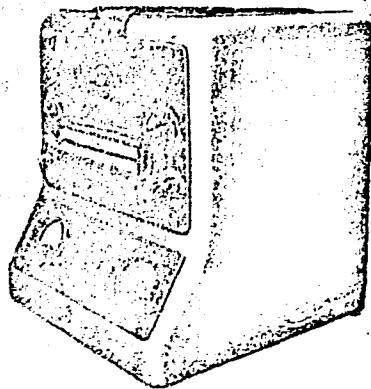


Figure 1:

Total view of computer developed by
TNISA

Card 3/3

LOSKUTOV, V.

The role of computing machines in the improvement of labor productivity. Sots.trud 4 no.7:26-30 J1 '60. (MIRA 13'8)
(Electronic calculating machines) (Efficiency, Industrial)

LOSKUTOV, V.I.

Numerical methods for controlling metal-cutting machine
tools. Stan.i instr. 31 no.7:3-5 ,J1 '60.

(MIRA 13:7)

(Machine tools--Numerical control)

S/621/61/000/000/001/014
D234/D303

AUTHOR: Loskutov, V.I.

TITLE: Present state and prospects for the development of computers and control devices

SOURCE: Nauchno-tehnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Primeneniye vychislitel'noy tekhniki dlya avtomatizatsii proizvodstva. Trudy soveshchaniya, provedennogo v oktyabre 1959 g. Ed. by V.V. Solodovnikov. Moscow, Mashgiz, 1961, 20 - 51

TEXT: A general description of present types of computers, Soviet and American, with tables of chief technical parameters. A short description of information machines and logical machines, chiefly American is given. Control devices (called "controlling computers" by the author) are discussed in general terms, followed by several examples of devices for special purposes, such as applications in petroleum industry, determination of optimum heat regime, automatic driving of trains, tea production, etc. There are 4 tables and 13 figures. ✓
Card 1/1

LOSKUTOV, V.I.; ALEKSANDROV, V.V., inzh., red.; BARANOVA, Z.S., inzh.,
red. izd-va; MODEL', B.I., tekhn. red.

[Control computers]Upravliaiushchie matematicheskie mashiny.
Moskva, Mashgiz, 1962. 387 p. (MIRA 15:10)
(Electronic calculating machines)
(Automatic control)