

FAYERMAN, Aron Iudovich; FINKEL'SHTEYN, S.A., nauchnyy red.; KLIMOVICH, Yu.G., red.; DORTODKOVA, L.A., tekhn. red.

[Economic aspects and organization of welding practices] Ekonomika i organizatsiia svarochnogo proizvodstva. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 94 p.

(MIRA 15:3)

(Welding—Accounting) (Industrial organization)

3

CA FINKEL'SHTEYN, S. D.

Anomalous diffraction effects in x-ray patterns of aging polycrystalline alloys. A. M. Mistrator, S. D. Finkel'shteyn, and A. I. Puchilov, *Doklady Akad. Nauk S.S.S.R.* **66**, 1017-20(1940).--A "coarse-grained" x-ray method is described to replace the single-crystal techniques generally used. The grain size was about 0.02 mm. A Zeeman-type rotating electrode tube with a sharp line focus 0.3 (0.3 mm. wide was used. At 18 to 30 kv. the background intensity was small compared to the characteristic lines. The Laue method was used with flat or cylindrical films. Wire specimens had a diam. of 0.3 to 1.0 mm. Two-dimensional diffraction effects appeared in a Cu-2.02% Be alloy as early as after aging for 1 hr. at 191°, and disappeared after aging for 1 hr. at 350°. Characteristic extra streaks were obtained if the incident beam direction was parallel or almost parallel to the plane of a Guinier-Preston zone. In Cu-Be they were never observed in the vicinity of a (111) spot. In the immediate vicinity (0.3-0.5°) of the Laue spot, the intensity of the extra spots could be greater than the spot if low voltage was used and a long-wave characteristic radiation. Exposures of 1-2 hrs. were used in this case. Much weaker "white streaks" were also obtained if long exposure times were used at high voltages. Two-dimensional effects were also found in a Ag-7.5% Cu alloy aged for 3 min. at 291°, and in Fe-Ni-Al magnetic alloy aged 10 min. at 750°. In Al-Ag and Cu-Be alloys very weak one-dimensional diffraction effects were observed in the form of small, thin circles, or thin, short, slanting lines coming from extra two-dimensional diffraction spots, or as long, thin lines going through extra spots. On changing the wave length they either displace themselves with the extra spots, remain almost parallel with their previous position, or disappear. "Two-crystal" diffraction effects, weak white streaks, were obtained from Cu-Be alloy aged 1 hr. at 291° by 12-14 hrs. exposure. With change in wave

length they either disappeared or sharply changed direction. This effect was not observed with grains greater than 0.3-0.4 mm., and was observed best with nonuniform grain size. One crystal acts like a monochromator. The ratio of two-crystal effect intensity to the intensity of a Bragg reflection is 1.2×10^{-4} , the same as the ratio of central diffraction to initial beam intensity. The size of the Guinier-Preston zone calculated from this effect agreed with that obtained from central diffraction. The coarse-grained x-ray method is useful at least with heavy alloys. A. G. Guy

CINELIBRARY, U. S. A.

Chemical Abstracts
May 25, 1954
General and Physical
Chemistry

X-ray analysis of the initial stages of aging of beryllium bronzes. A. M. Elistratov, S. D. Pinkel'shtein, and T. Yu. Gol'dshtein (Sverdlovsk Branch, All-Union Sci. Research Inst.). *Doklady Akad. Nauk S.S.S.R.* 88, 669-72 (1953); Engl. translation issued as *U.S. Atomic Energy Comm. N.E.-tr-63*, 5 pp. (1953).—In order to obtain supersatd. solid solns., the Be bronzes with 2.32% Be were heated at 880° and quenched in water. The x-ray photographs of these samples showed no anomalous x-ray scattering. After tempering at 160° or natural aging for one year, very weak and diffuse reflection maxima occur, which coincide with (110) and (002) of the γ -phase. By tempering for 1 hr. at 180° diffuse extra spots appear in the vicinity of the Laue spots of the α -phase. The form and dimension changes of the anomalous scattering are described. The existence of two types of regions of the anomalous scattering leads to the following conclusions: during the early stage of the aging small (25 \times 50-A.) γ -structure platelets are formed. After being tempered at 250° the platelets grow by the addn. of newly formed γ -structure regions into blocks which are parallel to (110) of the α phase. The width of the blocks is 700 A.; their thickness, however, remains almost unchanged (35 A.).
F. Schusslerger...

md

KUDRYAVTSEV, I.P.; FINKEL'SHTEYN, S.D.

Effect of the divergence of X-ray beams on the results of
determining the crystallographic texture of cold-rolled
transformer steel. Trudy Ural. politekh. inst. no.127:
119-126 '61. (MIRA 16:8)

FINKEL'SHTEYN, S. G.

Quantitative Spectrographic Analysis with the Aid of the
Stooscope. A. M. Horbat, M. B. Smolin, and S. G. Finkel'shtein. (*Zavodskaya Laboratoriya*, 1955, 21, (3), 313-316). [In Russian]. Methods are described for the quantitative analysis of various ferrous and other alloys with the aid of a standard stooscope and an A.C. arc. No photometric devices are needed, the basis of the methods being the electro-orelon of the sample. A special revolving false electrode is used for the deposition of the element being estimated. --S. K.

3
RAW JOK

Kiev State U. in. T. G. Shavchenko

KUDRYASHOV, Ye.V.; FINKEL'SHTEYN, Sh.D.; KUZ'MUK, L.G.

Kichik-Bel', a new oil field in Tajikistan. Neftgaz. geol. o
geofiz. no.8:11-13 '63. (MIRA 17:3)

1. Sredneaziatskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta prirodnogo gaza i Tadzhikskoye geologicheskoye upravleniye.

FINKEL'SHTEYN, S. I.

USSR/Medicine - Roentgenology

FD-707

Card 1/1 : Pub 132 18/22

Author : Finkel'shteyn, S. I., Candidate Medical Sciences

Title : ~~X-rays of the skeleton~~ X-rays of the skeleton taken in oblique projections

Periodical : Vest. Rent. i Rad. 81-82, May/June 1954

Abstract : When a patient has been badly injured or is severely ill, it is often not possible to move him so that satisfactory confirmatory X-rays can be made. In this case it is recommended that at least two oblique X-rays be made that are perpendicular to each other. No drawings; no references.

Institution : Chair of Roentgenology (Chief - Professor Yu. N. Sokolov) Central Institute for Advanced Training of Physicians (Director - V. P. Lebedev).

Submitted : --

FINKEL'SHTYIN, S.I., kandidat meditsinskikh nauk

Medullary sinus of the astragalus. Vest.rent. i rad. 31 no.1:
83-86 Ja-F '56.

(MLRA 9:7)

1. Iz kafedry rentgenologii (sav.-prof. Yu.N.Sokolev) Tsentral'nogo
instituta uvershenstvovaniya vrachey (dir. V.P.Lebedeva)
(ASTRAGALUS, anat. and histol.
medullary cavity)

FINKEL'SHTEYN, S.I., kand.med.nauk

Stereoroentgenometry. Vest.rent. 1 rad. 33 no.3:60-61 My-Je '58

(MIRA 11:8)

1. Iz kafedry rentgenologii (zav. - prof. Yu.N. Sokolov) Tsentral'nogo
instituta usovershenstvovaniya vrachey (dir. V.P. Lebedeva).

(ROENTGENOGRAPHY

stereoroentgenometry, technic (Rus))

FINKEL'SHTEYN, S.I., dots.

Motor function of the ureters in tuberculosis of the urinary tract;
roentgenokymographic study [with summary in English]. Vest. rent.
i rad. 33 no.4:44-50 J1-Ag '58 (MIRA 11:8)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. -prof.
Yu.N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya vrachey
i urologicheskoy kliniki (zav. - prof. A.Ya. Abramyan) i rentgenologi-
cheskogo otdela (zav. - kand.med.nauk V.I. Petrov). Moskovskogo
oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni
M.F. Vladimirovskogo.

(TUBERCULOSIS, UROGENITAL, physiol.

motor funct. of urinary tract, roentgenokymography (Rus))

(URINARY TRACT, radiography,

roentgenokymography in determ. of motor funct.
in urinary tract tuberc. (Rus))

FINKEL'SHTEYN, S.I., dots.; GOLUBEVA, K.A., aspirant.

Clinical significance of tomography in kidney diseases. Vest. rent.
i rad. 33 no.6: 12 N-0 '58. (MIRA 12:1)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii Tsentral'nogo
instituta usovershenstvovaniya vrachey (zav. - prof. Yu. N. Sokolov)
urologicheskoy kliniki (zav. - prof. A. Ya. Abramyan) i rentgenovskogo
otdela (zav. - kand. med. nauk V.I. Petrov) Moskovskogo oblastnogo
nauchno-issledovatel'skogo klinicheskogo instituta.
(KIDNEY DISEASES, diag.
tomography (Rus))

FINKEL'SHTEYN, S.I., dots.

Interpretation of axial images in roentgenodiagnosis. Sov. med. 23 no.3:
108-111 Mr '59. (MIRA 12:4)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. - prof. N. Yu. N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya vrachey i rentgenologicheskogo otdela (zav. - kand. med. nauk. V.I. Petrov) Moskovskogo oblastnogo-nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirskogo.

(ROENTGENOGRAPHY,

interpretation of axial images (Rus))

FINKEL'SHTEYN, S.I., dots.

Invisible calculi in the second isthmus of the ureter. Urologia 24
no.1:56-57 Ja-P '59. (MIRA 12:1)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. - prof.
Yu. N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya vrachey i
urologicheskoy kliniki (sav. - prof. A. Ya. Abramyan) Moskovskogo oblast-
nogo nauchno-issledovatel'skogo klinicheskogo instituta.
(URETERS, calculi
second isthmus, invisible on x-ray (Rus))

FINKEL'SHTEYN, S.I., dots.

Axial roentgen projections in urology. Urologia 24 no.4:50-53
Jl-Ag '59.

(MIRA 12:12)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (sav. - prof. Yu.N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya vrachey i iz urologicheskoy kliniki (sav. - prof. A.Ya. Abramyan) i rentgenovskogo otdela (sav. - kadn.med.nauk V.I. Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta.
(URINARY TRACT radiography)

PEVZNER, R.L.; ZVYAGIL'SKIY, A.A.; FINKEL'SHTEYN, S.I.

Efficient technology in making pressed electric insulators.
Stek. i ker. 18 no.2:19-24 F '61. (MIRA 14:3)
(Electric insulators and insulation)

FINKEL'SHTEYN, S.I., dotsent

Urokumography. Urologiia no.5:34-38 '62.

(MIRA 15:12)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. -
prof. Yu.N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya
vrachey i urologicheskoy kliniki (zav. - zasluzhennyy deyatel'
nauki prof. A.Ya. Abramyan) Moskovskogo oblastnogo nauchno-
issledovatel'skogo i klinicheskogo instituta imeni M.F. Vladimirovskogo.
(KYMOGRAPHY) (URINARY ORGANS--RADIOGRAPHY)

FINKEL'SHTEYN, S.I., dozent

Method of urography. Sov.med. 26 no.12:97-99 D '62.

(MIRA 16:2)

1. Iz 2-y kafedry rentgenologii i meditsinskoy radiologii (zav. -
prof. Yu.N. Sokolov) Tsentral'nogo instituta usovershenstvovaniya
vrachev (dir. M.D. Kovrigina).

(URINARY ORGANS--RADIOGRAPHY)

FINKEL'SHTEYN, S.I.

Urozymography in calculi of the ureters and kidney pelvis.
Vestn. rent. i rad. 38 no.3:46-49 My-Je '63. (MIRA 17:7)

1. Iz urologicheskoy kliniki (direktor - zasluzhennyy deyatel'
nauki prof. A.Ya. Abramyan) Moskovskogo oblastnogo nauchno-
issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirovskogo.

~~BRUKELISHTEYN, Sergey Maksimovich~~; GOLUBEVA, T.M., red.; TELYASHOV,
R.Kh., red.12d-va; BOLOGUROVA, I.A., tekhn.red.

[Semiautomatic line in the production of wood chips] Polu-
avtomaticheskaya liniya po proizvodstvu drevesnoi struzhki.
Leningrad, 1963. 12 p. (Leningradskii dom nauchno-
tekhnicheskoi propagandy. Obmen peredovym opytom. Seriya:
Derevoobrabatyvalushchaya promyshlennost', no.2)
(MIRA 16:9)

(Woodworking machinery)

S/142/63/006/001/007/015
E192/E382

AUTHOR: Finkel'shteyn, S.M.

TITLE: The problem of calculating the transfer coefficient of a cascade of three-waveguide directional couplers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 6, no. 1, 1965, 64 - 71

TEXT: A three-waveguide directional coupler is a system whereby the energy from the main waveguide to the auxiliary is transmitted through an intermediate waveguide. This coupler is in the form of two directional couplers a and b , as shown in Fig. 1. The coupler a connects the main waveguide with the intermediate one and the coupler connects the intermediate waveguide with the auxiliary. The problem considered is the determination of the transfer function of a system of n three-waveguide directional couplers connected in cascade, the transfer coefficients of individual couplers being j_c . The moduli of the electric-field amplitude at the output of the n -th coupler in the main waveguide E'_n , in the auxiliary waveguide E''_n , at the output

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The problem of calculating

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E192/E382

of the lower waveguide and E_{Rn} at the output of the upper row of couplers and E_n in the upper waveguide are given by the following set of equations:

$$\left. \begin{aligned} E'_n &= \sqrt{1-c^2} E'_{n-1} - cE_{Rn-1} \\ E'_{Rn} &= \sqrt{1-c^2} E_{Rn-1} + cE'_{n-1} \\ E_{Rn} &= \sqrt{1-c^2} E'_{Rn} - cE_{n-1} \\ E_n &= \sqrt{1-c^2} E_{n-1} + cE'_{Rn} \end{aligned} \right\} \quad (10)$$

These equations can be solved by the method of successive approximations by first assuming that $n = 1$. Subsequently, they can be solved for $n = 2$ and then for $n = 3$ and so on. However, the difficulty in solving this system lies in the fact that it is necessary to know the solution for $n = 1$. This results in considerable complexity of the problem even for $n = 5$. Consequently,
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The problem of calculating

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a computer was used for solving the equations. The calculations show that for obtaining the same transfer function by means of a system of three-waveguide directional couplers, the number of elements should be higher than in a cascade of two-waveguide couplers. The calculated results are in good agreement with the theory. The above method of evaluating the transfer function can be used in couplers with two auxiliary waveguides and several intermediate waveguides. There are 7 figures.

ASSOCIATION: Kafedra teoreticheskikh osnov radiotekhniki Kiyevskogo ordena Lenina politekhnicheskogo instituta (Department of the Theoretical Principles of Radio-engineering of Kiyev Order of Lenin Polytechnical Institute)

SUBMITTED: April 25, 1962

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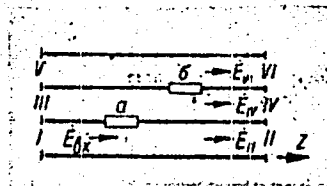


Fig. 1:

L 10376-63

ACCESSION NR: AP3000332

S/0142/63/006/002/0166/0172

AUTHOR: Chashnik, M. Z.; Finkel'shteyn, S. M.

44

TITLE: Calculating the transmission coefficient of a cascade of directional couplers

SOURCE: Izv. VUZ: Radiotekhnika, v. 6, no. 2, 1963, 166-172

TOPIC TAGS: directional couplers (waveguides)

ABSTRACT: Although the matrix method of calculating the cascade of directional couplers is rigorous and yields reliable results, it is extremely cumbersome. By using the method of cophasal-and-counterphasal generators, simple formulae are developed for calculating the overall transmission coefficient of the cascade; the formulae hold true with any value of the transmission coefficients of component couplers. The overall coefficient is independent of the sequence of components or of the distance between them. No experimental data reported, but it is claimed that the formulae have been verified experimentally. Orig. art. has: 12 equations and 5 figures.

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L 10376-63
ACCESSION NR: AP3000332

ASSOCIATION: Kiyevskiy ordena Lenina politekhnicheskij institut (Kiev Polytechnic Institute)

SUBMITTED: 25Apr62 DATE ACQ: 13Jun63 ENCL: 00

SUB CODE: CO NR REF SOV: 005 OTHER: 000

18/1
Card 2/2

GUBINA, A.A.; ZAKGEYM, Ye.N.; ZUSMANOVICH, V.M.; IVANOV, K.N.;
LISITSYN, S.N.; MOZGOV, A.Ya.; PAVLOV, A.S.; PISKORSKIY,
B.N. [deceased]; USHOMIRSKAYA, A.I.; FINKEL'SHTEYN, S.M.;
CHISTOVSKIY, V.B.; SHER, S.Yu.; ADAMOV, O.V., nauchn. red.;
BEYZERMAN, A.N., nauchn. red.; ZHIVOV, M.S., nauchn. red.;
POGORELYY, P.P., nauchn. red.; STAROVEROV, I.G., nauchn. red.;
STESHENKO, A.L., nauchn. red.; TSEYTLIN, M.M., nauchn. red.;
KOKHANENKO, N.A., inzh., red.; VOLNYANSKIY, A.K., glav. red.

[Assembling interior sanitary equipment] Montazh vnutren-
nikh sanitarno-tekhnicheskikh ustroystv. Moskva, Stroizdat,
1964. 725 p. (MIRA 17:8)

YENDELINETS N. N.

"Investigation of a Pressure-Regulating System with a Long Impulse Pipe Line." Cand Tech
Sci, Inst of Automatics and Telemechanics, Acad Sci USSR, 11 Feb 54. Dissertation
(Vostochnaya Moskva Moscow, 2 Feb 54)

OO: SU 186, 19 Aug 1954

Finkel'shteyn, Sergey Maksimovich

N/5
729.45
.F4

Ukhod za rezhushchimi instrumentami v lesopilenii /Handling cutting tools
in sawing/

Moskva, Goslesbumizdat, 1955.

116 p. Illus., Diagr., Tables.

FINKEL'SHTEYN, S.M.

PHASE I BOOK EXPLOITATION 869

Avtomatizatsiya proizvodstvennykh protsessov (Automation of Production Processes) No. 2. Moscow, Izd-vo AN SSSR, 1958. 177 p. 6,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Resp. Ed.: Lossiyevskiy, V.L., Doctor of Technical Sciences, Professor; Ed. of Publishing House: Klimov, V.A.; Tech. Ed.: Rylina, Yu. V.

PURPOSE: This volume is intended for specialists engaged in research work and planning of automation process in various branches of industry.

COVERAGE: The volume contains articles summarizing the results of investigations carried out in laboratories for the automation of production processes of the Institut avtomatiki i telemekhaniki,

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Automation of Production Processes

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AN SSSR (Institute for Automatics and Telemechanics of the USSR Academy of Sciences). The articles discuss the following topics: 1) basic objectives of automation 2) classification of industrial processes and formulation of typical automation solutions 3) experimental methods employed in studying industrial processes subject to regulation 4) considerations in determining the rational sequence and the extent of automation, and 5) results of studies on the automation of some industrial processes and establishments.

TABLE OF CONTENTS:

Foreword

3

GENERAL PROBLEMS OF AUTOMATION

Lossiyevskiy, V.L. Objectives of Automating Industrial Processes

7

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Automation of Production Processes

869

The study attempts to characterize the status of automation of production processes and to chart the more important directions for further development. There are no references.

Finkel'shteyn, S.M. Classification of Production Processes
Subject to Automation and Typical Solutions of the Latter

19

The author reviews the classification of automated production processes with emphasis on continuous flows production which in terms of present instrumentation and outlook is most suitable for automation. There are 10 Soviet references.

Motulevich, D.Yu. and Tagayevskaya, A.A. Types of Controller
Actions During Experimental Studies of Controlled Processes

43

Types of controller actions employed in studying industrial processes are reviewed, optimum conditions for the use of this or that controller action are indicated, shapes of curves for transition process and characteristics of stable conditions for single capacity plants are shown,

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and spectra for a number of nonperiodic actions are presented. There are 2 appendixes and 6 Soviet references.

Rushchinskiy, V.M. Experimental Determination of Amplitude-phase Characteristics of Controlled Plants Based on a Transient Process With a Disturbance in a Form of a Rectangular Wave Impulse 65

Description of the method is presented. There are 10 Soviet references.

Rushchinskiy, V.M. Determining the Approximate Expression for Transfer Functions of the Controlled Plant Based on Its Experimental Frequency Characteristics 74

The author presents several solutions to the problem of lag detection. There are 4 Soviet references.

Lossiyevskiy, V.L. Determination of Rational Sequence and the Extent of Automation of Industrial Processes 83

This is an attempt to develop an analytical method which would permit the determination of production sectors most suitable for automation. The method consists basically of

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Automation of Production Processes

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a review of production costs, analysis of material and labor expenditures, and subsequent introduction of automation on sectors where automation appears to be economically more effective than conventional methods of production. There are 1 Soviet, 1 Czech, and 1 American references.

AUTOMATION OF INDUSTRIAL PLANTS

Popovskiy, A.M., Gritskov, V.I., and Govorov, A.A. Automation of the Desiccating and Absorbing Departments of Plants Using the Contact Method of Producing Sulphuric Acid

97

The study describes fully the automation of the desiccating and absorbing department of the Shchelkovskiy khimicheskii zavod (Shchelkovskiy Chemical Plant). The principal product of this department is monohydrate and the automation embraces the processes within the desiccating tower, and oleum and monohydrate absorbing columns. There are 19 Soviet references.

Card 5/7

Automation of Production Processes

869

Gritskov, V.I. Investigation of a Cement Mill as an Object
for Automation

133

Automation of a mill located in the vicinity of Novorossiysk consists largely of instrumentation and other means to assure the maintenance of acceptable quality of grist and liquid raw material mixture at a maximum productivity level. Description of instrumentation is included. There are 2 Soviet references.

Mezin, I.S. and Malyy, A.L. Automation of Drying Drums

139

The study presents basic concepts for the selection of a rational automation plan for a drying drum and describes its performance under normal production conditions. Reference is made to I.V. Vayser, Candidate of Technical Sciences, who participated in the work of the Institute for Automatics and Telemechanics of the USSR Academy of Sciences. There are 4 Soviet references.

Card 6/7

Automation of Production Processes

869

Shumilovskiy, N.N. and Pliskin, L.G. Some Problems Encountered in the Development of an Automatic Control System for the Gasification Process in a Boiling Layer

153

The authors briefly described the technological process taking place in the boiling layer, the principal plan for automatic control, and characteristic features of the boiling layer. There are 1 Soviet, 2 German and 4 English references.

Pliskin, L.G. A System of Automatic Control of the Gasification Process in a Boiling Layer

164

The article describes the plan for a complex automatic control worked out in the Institute for Automatics and Telemechanics of the USSR Academy of Sciences with the participation of GIAP (State Institute of the Nitrogen Industry) and the Chirchik khimelektrokombinat MKhP SSSR (Chirchik Chemical-Electrical Combine of the Ministry of the Chemical Industry, USSR). There are 4 Soviet and 1 English references.

AVAILABLE: Library of Congress

Card 7/7

JG/jmr
11-25-58

FINKEL'SHTEYN, S.M.

Classification of processes for automation and standard solutions
in automation. Avtom.proizv. prots. no.2:19-42 '58. (MIRA 13:8)
(Automation)

ADAMOV, O.V.; FINKEL'SHTEYN, S.M.

Work practices in pipe bending. Vod.1 san.tekh. no.9:31-32
S '59. (MIRA 12:12)

(Pipe bending)

PHASE I BOOK EXPLOITATION

PHASE I BOOK EXPLOITATION SOV/4612

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Avtomatizatsiya proizvodstvennykh protsessov, vyp. 3 (Automation of Production Processes, No. 3) Moscow, 1960. 134 p. Errata slip inserted. 5,000 copies printed.

Resp. Ed.: V.L. Lossiyevskiy, Professor, Doctor of Technical Sciences; Ed. of Publishing House: Ye. N. Grigor'yev; Tech. Ed.: O.M. Gus'kova.

PURPOSE: This collection of articles is intended for scientific and engineering personnel in industry.

COVERAGE: The present (third) volume of the collection of articles "Automation of Production Processes" contains data on general problems of automation of specific industries. Problems of classification analysis as applied to the automation of discrete engineering processes and typical solutions in the automation of machines are developed; some averaged indices of capital and operational expenditures for industrial automation are considered. The effect of extended impulse pipelines on the stability of automatic-control systems containing regulators of pneumatic and hydraulic type is discussed. The selection
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Automation of Production Processes, No. 3

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and analysis of a generalized scheme of automatic airconditioning for production purposes, applied to textile industry, are described. Finally, problems in the rational training of engineering personnel in the field of automation of production processes are considered. No personalities are mentioned. There are 49 references: 39 Soviet, 4 English, 4 German, 1 French, and 1 Polish.

TABLE OF CONTENTS:

1. Artobolevskiy, S.I. On the Principles of Automation of Discrete Engineering Processes 3
2. Pliskin, L.G., and N.A. Sagaydak. On the Classification of Schemes of Self-Regulation of Processes in a Boiling Layer 44
3. Finkel'shteyn, S.M. Characteristics of an Impulse Pipeline as an Element of an Automatic Control System 57
4. Finkel'shteyn, S.M. On the Stability of an Automatic Control System With an Extended Impulse Pipeline 69
5. Sagaydak, N.A. Determination of the Time Constants of a Second-Order Element With a Lag 87

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Automation of Production Processes, No. 3

SOV/4612

6. Strakhova, L.P. On Capital and Operational Expenditures for Control and Measuring Instruments and Automation in Automated Production 90
7. Lossiyevskiy, V.L. On the Training of an Engineering Staff in the Field of Automation of Production Processes 97
8. Khasanov, M.M. Automation of the Process of Preparing the Air in Industrial Year-Round Air-Conditioning Installations 102
9. Krassov, I.M., and B.G. Turbin. Discharge Coefficients of a Hydraulic Back-Pressure Type Throttle 130

AVAILABLE: Library of Congress

Card 3/3

AC/rn/gmp
12-16-60

FINKEL'SHTEYN, S.M.

Improved machine for setting the teeth of frame saws. Der.
prom. 9 no.5:26 My '60. (MIRA 13:7)

1. Leningradskiy lesopil'no-derevoobrabatyvayushchiy kombinat
imeni Kalinina.

(Saw filing)

FINKEL'SHTEYN, S. M.

Characteristics of a pulse pipeline considered as an element of
automatic control. Avtom. proizv. prots. no. 3:57-68 '60.

(MIRA 13:10)

(Automatic control)

FINKEL'SHTEYN, S. M.

Stability of an automatic control system with a long pulse pipeline.
Avtom. proizv. prots. no.3:69-86 '60. (MIRA 13:10)
(Automatic control)

STAROVEROV, I.G., otv. red.; YASTREBOV, M.M., zam. otv. red.;
VERKHODANOV, M.Kh., red.; GULISHAMBAROV, F.I., red.;
OSIPOV, V.S., red.; FINKEL'SHTEYN, S.M., red.;

[Album of equipment; condensate outlets] Al'bom oborudovaniia;
kondensatootvodchiki. Moskva, 1963. 33 p. (MIRA 16:12)

1. Moscow. Gosudarstvennyy proyektnyy institut Santekhproyekt.
2. Glavnyy inzhener Gosudarstvennogo proyektного instituta Gosudarstvennogo tresta sanitarno-tekhnicheskogo projektirovaniya (for Staroverov).

(Water heaters)

CHASNIK, M.E., kand. tekhn. nauk (Kiyev); KIKAL'SHCHIN, G.M., kand. tekhn.
nauk (Kiyev)

Reply to comrade Sablin. Izv. vys. ucheb. zav.; radiotekhn. 7 no.4:
540 JI-Ag '64. (MIRA 17:11)

STAROVEROV, I.G., otv. red.; YASTREBOV, M.M., zam. otv. red.;
VERKHODANOV, M.Kh., red.; GULISHAMBAROV, F.M., red.:
OSIPOV, I.G., red.; FINKEL'SHTEYN, S.M., red.

[Equipment album; air heaters and heating units] Al'bom
oborudovaniia; kalorifery i agregaty. Moskva, 1964. 96 p.

[Equipment album; unit air conditioners] Al'bom oborudovaniia;
mestnye konditsionery. Moskva, 1964. 105 p.

(MIRA 18:4)

1. Moscow. Gosudarstvennyy proyektnyy institut santekhproyekt.

FINKEL'SHTEYN, S.H.

Automatic proportioning equipment for liquids. Avton. proizv.
no.4:68-105 '64. (MIRA 18:3)

L 31903-66 EWT(d)/FSS-2

ACC NR: AP6010723

SOURCE CODE: UR/0142/66/009/001/0059/0062

AUTHOR: Finkel'shteyn, S. M.; Chashnik, M. Z.

46

ORG: none

TITLE: Use of directional couplers in some SHF systems

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 1, 1966, 59-62

TOPIC TAGS: directional coupler, SHF communication, *OSCILLATION, COHERENT SIGNAL, PHASE SHIFT*

ABSTRACT: The possibility is substantiated of using directional couplers as devices that combine powers of coherent SHF oscillations and as nonabsorbing adjustable attenuators. To combine the powers of coherent oscillations (having equal or different amplitudes), a 90° phase shift between the oscillations at inputs I and III (see Figure 1) of the directional couple. must be achieved. This method is applicable for combining any number of coherent oscillations; a sketch for five-

Card 1/2

UDC: 621.372.832

L 31903-66

ACC NR: AP6010723

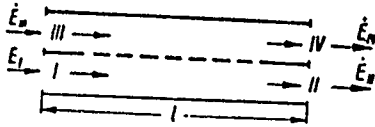


Figure 1

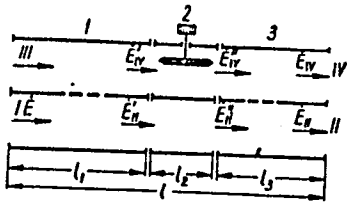


Figure 2

component addition is shown. A directional coupler (see Figure 2) consisting of two series-connected "elementary" couplers 1 and 3 having equal transfer factors and phase shifter 2 between them can be used as a nonabsorbing adjustable attenuator. By varying φ_1 between 0 and 180° , the resulting transfer factor can be controlled within from $2c\sqrt{1-c^2}$ to zero; here, c is the transfer-factor modulus of the "elementary" coupler. Orig. art. has: 3 figures and 17 formulas.

0

SUB CODE: 09 / SUBM DATE: 25Dec64 / ORIG REF: 002 / OTH REF: 001

L

Card 2/2

EYDMAN, I. Ye.; FINKEL'SHTEYN, S.N.

Determining the properties of carbonate reservoir rocks by
geophysical methods. Prikl. geofiz. no.28:145-154 '60.

(MIRA 14:3)

(Volga Valley--Oil well logging, Electric)
(Rocks, Carbonate)

KUDRYASHOV, Ye.V.; FINKEL'SHTEYN, Sh.D.

Present status of the gas industry of the Tajik S.S.R. and prospects for its development. Gaz. delo no.1:21-30 '63.

(MIRA 16:8)

1. Sredneaziatskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta prirodnykh gazov.

(Tajikistan--Gas, Natural)

FINKEL'SHTEYN, Sh.D.; PASHKOVSKIY, V.N.

Diagram of the hydrogeological zoning of southwestern Tajikistan.
Neftegaz. geol. i geofiz. no. 12:37-39 '63. (MIRA 17:5)

1. Sredneziatskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta prirodnogo gaza.

FINKEL'SHTEYN, Sh.D.; VASIL'CHIKOV, M.V.

Density of the sedimentary rocks of the Surkhdarya depression.
Neftegaz. geol. i geofiz. no.4:42-45 '62. (MIRA 17:6)

1. Sredneaziatskiy filial Vsesoyuznogo nauchno-issledovatel'skogo
instituta prirodnogo gaza.

C.A. FINKEL'SHTEYN, T.

Changes in physical-mechanical properties of cellulose fibers under the action of elevated temperatures. T. Finkel'shtein, V. Kargin, and Z. Rogovin. *Tekstil. Prom* 10, No. 8, 9-11(1950).—Heating hydrated cellulose fibers in a high vacuum for 2 hrs. at 200° did not affect the degree of polymerization and strength of fiber. At higher temps., dehydration and breakdown of the macromol. occurred as indicated by lowered mol. wt. and poorer mech. properties. Parallel studies of viscose and triacetate fibers have shown that the decrease in degree of polymerization upon heating to 200° is the same as that for cellulose. At 230-240° a sharp drop in mech. properties was experienced in all cases. Marshall Sittig

FINKEL'SHTEYN, T.A.; NIKOLAYEVA, N.S.; KONOVALOVA, Ye.M.; KONKIN, A.A.
VERETENNIKOVA, T.P.

Cellulose grinding on a vibratory mill. Tekst. prom. 18 no.2:16-19
P '58. (MIRA 13:3)

(Cellulose)

MAYBORODA, V.I.; FINKEL'SHTEYN, T.A.; GORYACHKO, L.P.

Effect of the derivatives of dithiocarbamic acid on the
formation process and properties of viscose cord fibers.

Khim. volok. no.2:49-51 '64.

(MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo
volokna.

SHALASHOV, V.A.; FINKEL'SHTEYN, T.B., starshiy nauchnyy sotrudnik;
VOLKOV, A.D.

Self-lubricating rings of spinning machines made from metallic
ceramics. Tekst. prom. 25 no.7:63-67 JI '65. (MIRA 18:8)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta legkogo i tekstil'nogo mashinostroyeniya, Moskva (for Shalashov).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut legkogo i tekstil'nogo mashinostroyeniya, Moskva (for Finkel'shteyn).
3. Nachal'nik laboratorii tekhnologii mashinostroyeniya Vsesoyuznogo nauchno-issledovatel'skogo instituta legkogo i tekstil'nogo mashinostroyeniya, Moskva (for Volkov).

KOPELEVICH, L.Kh., inzh.; BLEKHMANN, I.Ye., inzh.; MASENKO, I.D.,
inzh.; OVCHAROV, V.I., kand. tekhn. nauk; DEKHTYAR, D.E.,
kand. tekhn. nauk; VAKUSOV, V.G., inzh.; FINKINSHTEYN, V.A.,
inzh., red.

[Technology of manufacturing large prestressed concrete
elements for industrial construction] Tekhnologiya izgotov-
leniya krupnorazmernykh predvaritel'no napriazhenykh zhe-
lezobetonnykh konstruksii dlia promyshlennogo stroitel'stva.
Moskva, Gosstroizdat, 1963. 99 p. (MIRA 17:7)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii,
mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

FINKEL'SHTEYN, V.I., kandidat meditsinskikh nauk.

Harm of tobacco. Nauka i zhizn' 22 no.2:47-48 F '55. (MIRA 8:3)
(Tobacco—Physiological effect)

FINKEL'SHTEYN V. Ye.

Dissertation: "An Investigation of the Electron-Optic System of an Electrostatic High-Voltage Measuring Instrument." Cand Phys-Math Sci, Khar'kov State U, Khar'kov, 1953. (Referativnyy Zhurnal--Fizika--Moscow, Apr 54)

SO: SUM 243, 19 Oct 1954

1-144 AEC SA TRVAV, V, Ye.

USSR/Electronics - Electron Optics

H-3

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12300

Author : Val'ter, A.K., Finkel'shteyn, V.Ye.

Inst :

Title : Use of the Similarity Method for the Investigation of the Motion of Large Beams of Charged Particles in High-Voltage Electrostatic Fields.

Orig Pub : Uch. zap. Khar'kovsk. un-ta, 1955, 64, 95-100

Abstract : A theoretical examination has been made of similitude conditions in electron optics, with allowance for the space charge and for the initial distribution by velocities for the case of ion beams that consist of one or several components (with different values of e/m). A similarity criterion is derived and the limits of the validity of the theory are examined. The authors indicate, that they have carried out experiments on simulation of high-voltage ion-optical systems, but do not mention the results of the experiments.

Card 1/1

FINKEL'SHTEYN, V. YE.

USSR/Electricity - General Problems, G-1

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34982

Author: Val'ter, A. K., Finkel'shteyn, V. Ye.

Institution: None

Title: On the Use of Electrostatic Analyzers as Absolute Voltmeters

Original
Periodical: ~~Uch. zap. Leningradsk. univ.~~, 1955, 64, 101-102

Abstract: It is proposed to use as high-voltage voltmeters electrostatic analyzers in which the voltage is measured by the energy of the particles, accelerated in an accelerating tube. Such voltmeters, compared with the complex and expensive attraction voltmeters, which measure d-c voltages up to 500-600 kv with an accuracy to 0.1%, have the following advantages: (1) it is easy to estimate the error, which depends on the error of the parts that operate at low voltage; (2) the scale is linear (the unknown voltage is proportional to the measured difference of potential); (3) it is possible to measure not only d-c, but also a-c voltages -- their amplitude values -- from the maximum energy of the particles.

Card 1/1

FINKEL'SHTEYN, V.Ye.

Calibrating optical pyrometers at high temperatures. Izv.tekh. no.4:
31-34 J1-Ag '56. (MLRA 9'11)
(Pyrometers) (Calibration)

KANTOR, P.B.; FINKEL'SHTEYN, V.Ye.; SHPIGEL'MAN, Ye.S.

Steam thermostats for controlling surface thermocouples. Izm.tekh.
no.4:76-77 JI-Ag '56. (MLRA 9:11)

(Thermostat) (Thermocouples)

FINKEL'SHTEYN, V. Ye.

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices. Automatic Regulation. K-2

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33334
Author : Finkel'shteyn, V.Ye., Shpigel'man, Ye.S., Kandyba, V.V.
Inst :
Title : EOP-51M and OP-40M Pyrometers for Measuring Temperatures Up to 6000°.
Orig Pub : Izmerit. tekhnika, 1956, No 5, 52-54

Abstract : The apparatus described have been developed at the Khar'kov State Institute of Measures and Measuring Instruments, on the basis of the OP-48 and EOP-51 pyrometers. The glass absorbers of both pyrometers, which are required to make possible an expansion of the scale up to 6000°, were made, of a larger diameter, from PS-2 glass 4.71 mm thick and were mounted on the objective of the apparatus in lieu of being set in front of the pyrometric bulb; their pyrometric attenuation is of about $430 \cdot 10^{-6}$ degree⁻¹.

Card 1/2

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices. Automatic Regulation. K-2

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 33334

Calibration of the EOP-51M pyrometer, in the temperature range of 900-2500^o, was done by comparison with the standard pyrometer of VNIM. At higher temperatures the scale of the apparatus was graduated on the basis of calculations. The procedure is considered for determining the magnitude of pyrometric attenuation of a glass absorber.

Card 2/2

FINKEL'SHTEYN, V.Ye.

24(0); 5(A); 6(2) PHASE I BOOK EXPLOITATION SOV/2215
Vsesoyuzny nauchno-issledovatel'skiy institut metrologii imeni
D.I. Mendeleeva

Referaty nauchno-issledovatel'skiy rabot; sbornik No.2 (Scientific
Research Abstracts; Collection of Articles, Nr.2) Moscow,
Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i
izmeritel'nykh priborov.

Ed.: S. V. Rebetins; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers,
and engineers engaged in developing standards, measures, and
gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measure-
ment and control. The reports were prepared by scientists of
institutes of the Komitet standartov, mer i izmeritel'nykh
priborov pri Sovete Ministrov SSSR (Commission on Standards,
Measures, and Measuring Instruments under the USSR Council of
Ministers). The participating institutes are: VNIIM - D.I.
Vsesoyuzny nauchno-issledovatel'skiy metrologii imeni D.I.
Mendeleeva (All-Union Scientific Research Institute of Metro-
logy and Measuring Instruments); VNIITK - Vsesoyuzny nauchno-
issledovatel'skiy institut standartov, mer i izmeritel'nykh priborov
(All-Union Scientific Research Institute of Standards, Measures,
and Measuring Instruments); Gosudarstvennyy institut mer i
izmeritel'nykh priborov (Moscow State Institute of Measures
and Measuring Instruments); Vsesoyuznyy nauchno-issledovatel'skiy
institut fiziko-tekhnicheskikh izmereniy (All-Union Scientific
Research Institute of Physicochemical and Radio-engineering
Measurements) in Moscow; KNGIMIP - Khar'kovskiy gosudarstvennyy
institut standartov i izmeritel'nykh priborov (Khar'kov State Measur-
ing and Measuring Institute); and NIIM - Nauchno-issledovatel'skiy
gosudarstvennyy institut mer i izmeritel'nykh priborov
(Novosibirsk State Institute of Measures and Measuring Instru-
ments). No personalities are mentioned. There are no references.

Kandyba, V.V., V.Ye. Finkel'shteyn, A.T. Cherkida, and I.A.
Buz'skiyev (KNGIMIP). Measuring the Free Combustion Temperature
of Basic Industrial Fuels 86

Levin, G.M., A.K. Semanova, and V.I. Vol'mir (Sverdlovsk Branch
of VNIIM). Studying Characteristic Curves of Thermal Inertia
in Thermal Sensing Devices 87

Gomel'skiy, K.Z. (Sverdlovsk Branch of VNIIM). Determining
Thermal Capacity of Solids at High Temperatures 87

Levin, G.M., and E.M. Malkova (Sverdlovsk Branch of VNIIM).
Studying Methods for Determining Thermal Characteristics of
Materials on the Basis of the Theory of Regular Thermal Condi-
tions 89

Iosel'son, O.L., and B.S. Estrin (KNGIMIP). Developing and
Creating an Automatic Thermogal for Checking Standard Thermometers
With Values of Division 0.1°C or Less 90

SOV/58-59-8-18962

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 271 (USSR)

AUTHOR: Finkel'shteyn, V.Ye.

TITLE: On the Graduation of a Scale for the Optical Pyrometer in the Region of High Temperatures

PERIODICAL: Tr. Vses. n.-i. in-ta metrol., 1958, Nr 35 (95), pp 36-43

ABSTRACT: The article refines the concepts of pyrometric attenuation and of the effective wave-length of the light filter. A method is given for computing the pyrometer's high-temperature range ($T > 3000^{\circ}\text{K}$). At the same time it is recommended that Wien's formula be used with a subsequent correction of the obtained temperature values. The correction values are cited for temperatures of 3,000 - 11,000^oK in the case of an effective wave-length of $\lambda_{T_0} = 0.665\mu$.

A.G.S.

Card 1/1

SOV/58-59-3-18963

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 271 (USSR)

AUTHOR: Finkel'shteyn, V.Ye.

TITLE: A Method of Measuring the Pyrometric Attenuation of an Absorber Serving to Extend the Range of the Optical Pyrometer to the Region of Very High Temperatures

PERIODICAL: Tr. Vses. n.-i. in-ta metrol., 1958, Nr 35 (95), pp 44-59

ABSTRACT: The author proposes a method of determining the pyrometric attenuation of an absorber (PAA) adapted to the purpose of graduating the pyrometer up to temperatures higher than that up to which the standard pyrometer and source of comparison have been graduated. To this end an ocular cap with colored glass is mounted on the eyepiece of a pyrometer. The transmission coefficient of this glass for light of wave-length λ satisfies the condition $\tau_{\lambda} \text{ O.H.} = \text{const} \cdot \exp(C_2 \alpha / \lambda)$. The apparent brightness temperature T_{01} of the standard source is measured by means of the pyrometer with the cap, while its true temperature T_1 is determined by means of a standard optical pyrometer. The magnitude of the pyrometric attenuation of the absorber with the ocular cap is computed to the

Card 1/2

SOV/58-59-8-18963

A Method of Measuring the Pyrometric Attenuation of an Absorber Serving to Extend the Range of the Optical Pyrometer to the Region of Very High Temperatures

formula $A = (1/T_{01} - 1/T_1)$. The value of A thus obtained is equal to the PAA of the pyrometer for the apparent brightness temperature T_{02} , which is associated with T_{01} by means of the equation: $1/T_{02} = 1/T_{01} - \alpha$. The estimated error of the method is discussed, as well as some of its applications.

A.G. Sviridov

Card 2/2

SOV/58-59-8-18972

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 272 (USSR)

AUTHORS: Finkel'shteyn, V.Ye., Shpigel'man, Ye.S., Kandyba, V.V.

TITLE: Extending the Range of the "EOP-51M" Pyrometer up to 6,000° and 10,000°C

PERIODICAL: Tr. Vses. n.-i. in-ta metrol., 1958, Nr 35 (95), pp 60-69

ABSTRACT: The range of the "EOP-51M" pyrometer, originally calibrated up to 4,000°C, was extended up to 6,000° and 10,000°C by using two absorbers made of "PS-2" purple glass. The magnitudes of the pyrometric attenuation of the absorbers were determined, as well as their variations with a variation in the apparent brightness temperature. Strictly speaking, the calibration of the scale was made according to the formula $1/T_0 - 1/T_W = A$, where T_0 is the apparent brightness temperature, corresponding to some intensity of the current of the pyrometric tube, and A is the pyrometric attenuation of the absorber. The value T_W thus obtained, which is the approximate value of the measured temperature, is adjusted by the correction $T - T_W$, computed on the basis of allowance for the inaccuracy of Wien's formula. The error in calibrating the scale

Card 1/2

SOV/58-59-8-18972

Extending the Range of the "EOP-51M" Pyrometer up to 6,000° and 10,000°C

is compounded of the errors involved in calibrating the pyrometer's basic scale, measuring the pyrometric attenuation and determining the correction $T - T_w$. The root-mean-square error is equal to 50°C at a temperature of 6,000°C and to 160°C at a temperature of 10,000°C. The obtained estimates are apparently very overstated.

Ye. Antropov

Card 2/2

24.5500

65968
SOV/58-59-4-9248

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, p 263 (USSR)

AUTHORS: Finkel'shteyn, V.Ye., Kandyba, V.V.

TITLE: New Method for Calibrating Pyrometers and New Accurate Optical Pyro-
meter 1

PERIODICAL: Tr. Vses. n.-i. in-ta metrol., 1958, Nr 36 (96), pp 16 - 22

ABSTRACT: Using neutral absorbers to calibrate high-temperature pyrometers greatly reduces measurement accuracy owing to the difficulty of accurately measuring the absorber's transmission factor. Special calibration methods, including supplementary measurements with the aid of a color attachment, allows one to dispense with a special measurement of the transmission factor. Accuracy depends on a rational choice of spectral characteristics for the ocular attachment. The developed method was used in calibrating a new accurate pyrometer with a vanishing filament of the EOP51M type. The objective has an aperture ratio of 1 : 3. It is

Card 1/2

65968

SOV/58-59-4-9248

New Method for Calibrating Pyrometers and New Accurate Optical Pyrometer

possible to effect a rapid replacement of pyrometric tubes with planar filaments. Four (4) glass, absorbent light-filters extend the instrument's range up to 10,000°C. The mean square error amounts to 0.1 - 1.5% in the 1,400° - 10,000°C region, respectively.

Ye. Antropov

Card 2/2

SOV/115-60-1-14/28

AUTHOR: Finkel'shteyn, V. Ye. and Starunov, N. G.

TITLE: A Standard Infrared Spectropyrometer²¹

PERIODICAL: Izmeritel'naya tekhnika, 1960, Nr 1, pp 28-30 (USSR)

ABSTRACT: Design and operational information is given on the new electronic optical pyrometer "LKP-57"²¹ (Photo, Figure 1) developed by the KhGIMIP, i.e. Khar'kovskiy institut mer i izmeritel'nykh priborov (Khar'kov Institute of Measures and Measuring Instruments).

The pyrometer is designed for use as a reference instrument and for laboratory purposes. Detailed description of the optical system is illustrated by a schematic diagram (Figure 2) and that of the electronic system by a circuit diagram (Figure 3). The apparatus includes an infrared monochromator like that in the IKS-11 spectrometer. The objective consists of four lenses, the inside being made of glass and the outside of fluorite. Similar objectives

Card 1/2

SOV/115-60-1-14/28

A Standard Infrared Spectropyrometer

were designed by the Gosudarstvennyy opticheskiy institut im. S. I. Vavilova (State Optical Institute imeni S. I. Vavilov). A table is given to show mean quadratic errors in temperature measurement made with an IKP-57 whose radiation receiver was an Fs-A1 photoresistor. The circuit includes 6Zh8 and 6P6 valves. There are 1 photograph, 2 diagrams, 1 table and 1 Soviet reference.

Card 2/2

FINKEL'SHTEYN, V.Ye.; STARUNOV, N.G.

Spectropyrometer for measuring temperature by the monochromatic infrared radiation. Prib. i tekh. eksp. no.3:122-125 My-Je '60.
(MIRA 14:10)

1. Khar'kovskiy gosudarstvennyy institut ~~na~~ i izmeritel'nykh priborov.

(Pyrometers)

S/196/61/000/009/019/052
E194/E155

AUTHORS: Koshkin, M.L., Finkel'shteyn, V.Ye., and
Dudchenko, I.I.

TITLE: Reflection of ultraviolet radiation from screens
with coloured limewash

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,
no.9, 1961, 21, abstract 9V 192. (Sb. nauchn. rabot
Khar'kovsk. med. in-ta i N.-i in-ta vaktsin i
syvorotok (formerly Tr. Khar'kovsk med. in-ta),
no.53, 1960, 183-187)

TEXT: The use of ultraviolet irradiation of premises to
disinfect the air and contents is becoming more extensively used
as a prophylactic measure. For indirect ultraviolet irradiation
of rooms, which is the usual method, the lamp is installed
1.8 - 2.0 metres above the floor. An aluminium reflector directs
the ultraviolet radiation upwards so that the upper part of the
room is irradiated directly and the lower part only receives
radiation reflected from the walls and ceilings. With this method
irradiation can be carried out with people present because the
Card 1/2

Reflection of ultraviolet radiation... S/196/61/000/009/019/052
E194/E155

dispersed flux of radiation reflected from the walls and ceilings is much less than the direct radiation and causes no pathological effects, even after many hours' irradiation per day. To attain a better bactericidal effect it is desirable to irradiate the upper zones by the most intensive possible flux of ultraviolet irradiation. According to instructions of the Sektsiya po ul'travioletoovomu izlucheniyu (Ultraviolet Irradiation Section) of the Institut biofiziki AN SSSR (Biophysics Institute AS USSR) the radiation level in zones where people are present should not exceed 0.5 microwatts/cm² and the daily dose should not be more than 240 microwatts.min/cm².

[Abstractor's note: Complete translation.]

Card 2/2

FINKEL'SHTEYN, V. YE.

S/115/61/000/001/993/007
B129/B201

AUTHORS: Gordov, A. H., Izrailov, K. S., Kandyba, V. V., Kirenkov, I. I., Kovalevskiy, V. A., Lapina, E. A., Finkel'shteyn, V. Ye., and Ergardt, N. N.

TITLE: Comprehensive metrological studies for developing methods and apparatus for exact measurements of high temperatures

PERIODICAL: Izmeritel'naya tekhnika, no. 1, 1961, 22-25

TEXT: The ever-increasing demands made by industry on the accuracy and range of measurements of high temperatures make it necessary to reorganize the entire metrological system in the field of measurements of high temperatures and the development of new standard and model devices on the basis of the latest achievements in the construction of precision instruments. In this connection, the VNIIM imeni D. I. Mendeleeva and KHGIMIP developed a program for the performance of comprehensive metrological studies for the establishment of new standards and high-precision master instruments for temperatures of up to 10,000°C. This metrological research work was completed in 1960. The studies were made in four fundamental directions: thermometry

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S/115/61/000/001/003/007
B129/B201

Comprehensive metrological ...

of gases, thermoelectric pyrometry, optical visual pyrometry, objective pyrometry (photoelectric and radiation pyrometry). New temperature scales in the field of high temperatures were established on the basis of new methods of objective spectropyrometry. The optical pyrometers used for measuring high temperatures are not sufficiently accurate. Thus, the admissible error in measurement of the optical pyrometers OPIR (OPPIR) is up to $+15^{\circ}\text{C}$ at $1,000^{\circ}\text{C}$, and up to 30°C at $2,000^{\circ}\text{C}$. It is evident that this is insufficient for many purposes and for scientific research work. In connection with the above problem, i.e., direct temperature measurement of high accuracy, the optical precision pyrometers EOP-51 and OP-48 (OP-48) spectropyrometers of the types IKP-57 (IKP-57) and SPK (SPK, and new optical devices of the type URP (URP) were developed and introduced. The international temperatures scale was used with maximum accuracy for the new instruments at the Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. O. I. Mendeleeva (All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleev) and at the institutes of the Komitet standartov, mer i izmeritel'nykh priborov (Committee on Standards, Measures, and Measuring Instruments). The new pyrometers are widely used for scientific research work. There are 59 references: 49 Soviet -bloc and 6 non-Soviet-bloc.

Card 2/2

FINKEL'SHTEYN, V.Ye.; ROMADANOV, I.S.

Using an infrared spectropyrometer in experimental measurement
of the constant C_2 . Izv. vuzov. no.9:37-39 S '62. (MIRA 15:11)
(Pyrometers) (Thermometry)

FINKEL'SHTEYN, V.Ye.

Precise determination of the effective wave length of a
spectropyrometer. Izv. tekhn. no.1:29-30 Ja '64.

(MIRA 17:11)

ACCESSION NR: AP4014639

S/0115/64/000/001/0029/0030

AUTHOR: Finkel'shteyn, V. Ye.

TITLE: Precise determination of the effective wavelength of a spectropyrometer

SOURCE: Izmeritel'naya tekhnika, no. 1, 1964, 29-30

TOPIC TAGS: spectropyrometer, pyrometer, spectropyrometer effective wavelength

ABSTRACT: The higher accuracy required of modern spectropyrometric measurements and the necessity of using wider spectral slits have prompted the development of a method for direct measurement of the difference between the effective wavelength and the initial wavelength. A constant β can be found by measuring the effective wavelengths with two slit widths l_1 and l_2 $\beta = \frac{\Delta\lambda_{\phi\phi}}{l_2^2 - l_1^2}$, where $\Delta\lambda = \lambda(l_2) - \lambda(l_1)$. The method is based on the fact that if any two

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ACCESSION NR: AP4014639

pyrometers oriented toward an absolute blackbody, with an interposed neutral gray absorber, show the same brightness temperature, their effective wavelengths are equal. Practical hints are supplied. Orig. art. has: 5 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: PH

NO REF SOV: 000

OTHER: 000

Card 2/2

FINKEL'SHTEYN, V. Ye.

Estimation of errors in determining blackness in periodic
radiative heating of specimens. Nov. nauch.-issl. rab. po
metr. VNIIM no.3:36-39 '64 (MIRA 18:2)

FINKEL'SHTEYN, V.Ye.

Effect of surface cooling on the accuracy of measuring the
blackness coefficient in radiative heating of specimens.
Teplofiz. vys. temp. 3 no.1:134-138 Ja-F '65.

(MIRA 18:4)

1. Khar'kovskiy institut mer i izmeritel'nykh priborov.

FINKEL'SHTEYN, V. Ye.; KISEL', A.N.

Using the R2/1 semiautomatic potentiometer for accurate automatic recording of electrical magnitudes. Izv. tekh. no. 3:46-47 Mr '65.
(MIRA 18:5)

L 10304-66 EWT(1) GW
ACC NR: AP6000033

SOURCE CODE: UR/0115/65/000/010/0050/0051

AUTHOR: Golub, L. M.; Finkel'shteyn, V. Ye.; Shpigel'man, Ye. S.

ORG: None

44,55

44,55

34
B

TITLE: A method for expanding the range of a radiation pyrometer in the high-temperature region

SOURCE: Izmeritel'naya tekhnika, no. 10, 1965, 50-51

TOPIC TAGS: meteorologic instrument, radiation pyrometer, telescope, optic black body

12,44,55

ABSTRACT: From the meteorologic viewpoint, one of the practical disadvantages of telescopes of radiation pyrometers is that they are calibrated directly by "black body" emitters, as a result of which the upper temperature limit is restricted by the maximum working temperature of this emitter. It is desirable to have a method of range expansion which would make it possible to construct the range by means of calculations, but which would be free of any assumptions regarding the optic properties of the telescope itself. The authors propose the application of a method widely known in optical pyrometry, but never used in radiation pyrometry. The method is based on the following. In measuring high temperatures the light flux is attenuated by a glass selective absorber, the transmission τ_λ of which, in the

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UDC: 536.521.2

L 10304-66

ACC NR: AP6000033

entire longwave range admitted by the radiation pyrometer is related to the long wave λ by the relationship:

$$\epsilon_{\lambda} = \epsilon \frac{e^{-\frac{a}{\lambda}}}{\lambda}, \text{ Where } a = \text{const.} \quad (1)$$

After absolute black body emission passes through such an absorber, the temperatures T are made identical (i. e., equal at all wavelengths) to the emission of the absolute black body at a lower temperature T_0 , related with T by the relationship:

$$\frac{1}{T_0} - \frac{1}{T} = A, \text{ Furthermore } A = \frac{a}{c_2} = \text{const.} \quad (2)$$

where c_2 is the second constant in the Planck formula, equal to 1.438 cm x deg. Hence, irrespective of the properties of the radiation pyrometer, the signal originating from the black body of temperature T through the absorber will be equal to the signal originating without the absorber of the black body temperature T_0 . Several examples of application of the method are presented. It is concluded that the utilization of an absorber which satisfies the condition of formula (1) in the region of 0.8-2.7 microns makes it possible to extend the range of measurement of industrially produced telescopes of radiation pyrometers up to very high temperatures. Orig. art. has: 3 figures and 3 formulas.

SUB CODE: 17,04 / SUBM DATE: None / ORIG REF: 003

Card 2/2 *PC*

GOLUB, L.M.; FINKEL'SHTEYN, V.Ye.; SHPIGEL'MAN, Ye.S.

Method for expanding the scale of a radiation pyrometer into
the high temperature range. Izv.tekh. no.10:50-51 0 '65.
(MIRA 18:12)

L 45604-66 EWP(d)/EWP(l)/EWP(e)/EWP(m)/T/EWP(t)/OTI IJLIG
ACC NR: AP6014526 SOURCE CODE: UR/0115/65/000/011/0066/0067

AUTHOR: Golub, L. M.; Finkel'shteyn, V. Ye.; Shpigel'man, Ye. S.

50
B

ORG: None

TITLE: A new "black body" radiator for the 1500-3000°C temperature range

SOURCE: Izmeritel'naya tekhnika, no. 11, 1965, 66-67

TOPIC TAGS: black body radiation, radiation measurement, pyrometer

ABSTRACT: The authors describe a "black body" radiator developed at the Kharkov State Institute of Measures and Measuring Instruments for graduating the telescopes of radiation pyrometers with a sighting index of 1/40 (and less) in the 1500-3000°C temperature range. The radiator (see figure) is an electric resistance furnace in which the heating element is graphite tube 1 400 mm long with an inside diameter of 25 mm and a wall thickness of 3 mm. A screw thread is cut inside the tube for holding graphite partition 2 and diaphragms to increase the blackness of the radiating cavity. The heater is placed in a cylindrical metal housing 3 with double walls for passage of running water. Inside the housing is a graphite screen 4 in the form of a tube with fireclay rings 5. The screen and rings separate the furnace housing from the heater tube. The space between the housing and screen is filled with a heat insulation material (carbon black) 6. The furnace is covered on both sides by metal lids with double

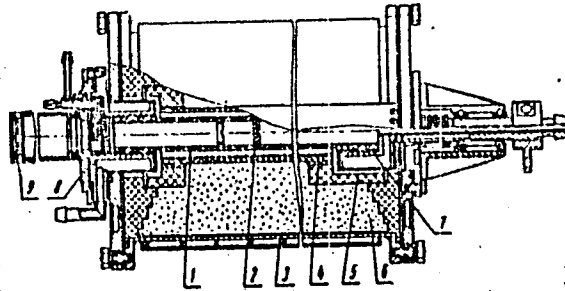
Card 1/2

UDC:681.2.089.6:536.521.2

L 45604-66

ACC NR: AP6014526

walls cooled by running water. The heater (graphite tube) is threaded into movable 7 and stationary 8 metal flanges which simultaneously serve as current conductors. The movable flange is necessary for expansion of the heated tube. Both flanges are equipped with glass windows 9 with metal baffles to avoid burn-through of the graphite heater. Argon is fed through pipe branches in the movable flange for the same purpose. The maximum working temperature of 3000°C is reached in one hour at a power of 20 kw. Radiation blackness is 0.980±0.015. Orig. art. has: 1 figure.



SUB CODE: 20/ SUBM DATE: None

Card 2/2 *pla*

NAMETKIN, N.S., FINKELSHEYN, V.S.H. VDOVIN, V.M.

"Die alkylierung aromatischer verbindungen mit silico-olefinen."

"The alkylation of aromatic compounds with silicoolefins."

Report submitted to the 2nd Dresden Symp. on Organic and Non-Silicate
Silicon Chemistry.

Dresden, East Germany 26-30 March 1963

Institute for petrochemical syntheses of the Academy of Science of the USSR,
Moscow.

ACCESSION NR: AP4012090

S/0020/64/154/002/0383/0386

AUTHORS: Nametkin, N.S. (Corresponding member); Vdovin, V.M.;
Finkel'shteyn, Ye. Sh.; Arkhipova, T.N.; Oppengeym, V.D.

TITLE: Synthesis of 3,4-benzosilicocyclopentanes

SOURCE: AN SSSR. Doklady*, v. 154, no. 2, 1964, 383-386

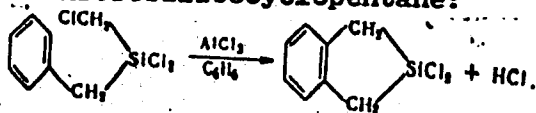
TOPIC TAGS: 3,4-benzosilicocyclopentane, infra-red spectrum, ultra-
violet spectrum, chloromethylbenzylchlorosilane cyclization, 3,4-
benzosilicocyclopentane synthesis, silicon containing indane

ABSTRACT: The silicon-containing analog of indane, 3,4-benzosili-
cocyclopentane and some of its derivatives were synthesized and
characterized by their IR and u.v. spectra and physical properties.
Chloromethylbenzylchlorosilane was cyclized with $AlCl_3$ in benzene

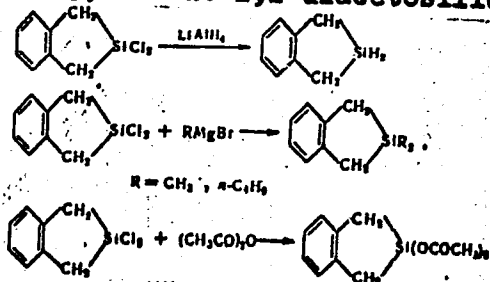
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ACCESSION NR: AP4012090

to the 3,4-benzo-1,1-dichlorosilicocyclopentane:



The latter was reduced with LiAlH_4 to 3,4-benzo-1,1-dihydrosilicocyclopentane, alkylated with RMgBr to the corresponding 1,1-dimethyl- and 1,1-dibutyl-derivatives, and reacted with acetic anhydride to form the 3,4-benzo-1,1-diacetosilicocyclopentane.



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ACCESSION NR: AP4012090

Orig. art. has: 3 figures, 1 table, 2 equations and 2 formulas.

ASSOCIATION: Institut neftekhimicheskogo sinteza, Akademii nauk
SSSR (Institute of Petrochemical Synthesis, Academy of Sciences
SSSR)

SUBMITTED: 28Sep63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 001

Card 3/3

MAL'KOVSKIY, D.P., inzhener; FINKEL'SHTEYN, Ya.B., inzhener.

Efficiency suggestions at the Moscow Underground Construction
Trust. Gor.khoz.Mosk. 28 no.6:34-38 Je '54. (MIRA 7:7)
(Pipelines)

Finkel'shteyn, Ya.B.

AUTHOR: Mal'kovskiy, D.P., Finkel'shteyn, Ya.B. 123 - 1 - 13.

TITLE: Innovators in the Underground Constructions (Ratsionalizatory v stroitel'stve podzemnykh sooruzheniy).

PERIODICAL: Gor. kh-vo Moskvy, 1956, ^{v. 30,} No.1, 30-33. (USSR)

ABSTRACT: Descriptions are given of the following innovations incorporated into the practice of underground engineering works of the Glavmosstroy (Main Division for Housing and Civilian Construction in the city of Moscow): attachment for rolling out the edges of smaller-in-diameter pipe in the welding operation; an equipment for cutting and removing chamfer from steel pipes during welding; machine tool for lapping the Ludlow gate valves which are installed in gas pipe lines; device for addition new feeders to the operating heat-conveying network without disruption of the heating system; pneumatically controlled machine tool for sheathing radiators; mechanisms for laying blocks in tunnels; electric car to move blocks and rocks in tunnels; full

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123 - 1 - 13.
swinging cranes of 750 and 1,000-kilogram capacity for
lifting rocks from shafts and lowering blocks into
collectors; a vibratory pile driver to sink into the
ground any metal bars, etc. P.Ye.A.

Ref.Zh., Mashinostroyeniye, Nr.1, 1957, Item 13.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

FINKEL'SHTEIN, I. B., TROITSKIY, N.V.

FT-1 liquid static drills. [Suggested by I.A.B. Finkel'shtein, N.V. Troitskii]. Rats.i izobr.predl.v stroi. no.148:11-14 '56.

(MLRA 10:5)

(Boring machinery--Cold weather operations)