

PULYARKIN, V. A.

"Protsess urbanizatsii v Afganistane."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

PULYARKIN, Valeriy Alekseyevich; POPOVA, V.I., red.; VILENSKAYA, E.N.,
tekh.red.

[Ceylon; a geographical account] TSeilon; a geograficheskii
oчерk. Moskva, Gos.izd-vo geogr.lit-ry, 1959. 54 p.
(MIRA 12:6)

(Ceylon)

OSKOLKOVA, O.B.; PULYARKIN, V.A.

Lectures of Professor Chatterjee at Moscow State University. Izv.
AN SSSR. Ser. geog. no.1:157-158 Ja-F '59. (MIRA 12:3)
(India--Geography)

PULYARKIN, Valeriy Aleksseyevich; POPOV, K.M., doktor ekonomicheskikh nauk, otvetstvennyy redaktor; RYABCHIKOV, A.M., kandidat geograficheskikh nauk, otvetstvennyy redaktor; KOSTINSKIY, D.N., redaktor; NOGINA, N.I., tekhnicheskiy redaktor

Kashmir. Moskva, Gos. izd-vo geogr. lit-ry, 1956. 225 p. (MLR 10:1)
(Kashmir--Geography)

MEDVEDEV, Innokentiy Fedorovich; PIIYAYEV, Aleksandr Ivanovich;
FEYGIN, L.M., otv. red.; ABARBARCHUK, F.I., red. izd-va;
PROZOROVSKAYA, V.L., tekhn. red.

[Vibration and combination drilling of boreholes] Vrashchatel'no-
udarnoe burenie shpurov i skvazhin. Moskva, Gosgortekhnizdat,
1962. 207 p. (MIRA 15:5)

(Boring)

L 62098-65 EWT(1)/EWA(h) Feb

ACCESSION NR: AP5016734

UR/0286/65/000/010/0047/0047
621.313.07
621.398.694
3: 538.652

9
B

AUTHOR: Pul'yer, Yu. M.

TITLE: Induction converter. ²⁵ Class 21, No. 171039

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 10, 1965, 47

TOPIC TAGS: induction converter, stator magnetic circuit

ABSTRACT: The proposed induction converter contains two stator magnetic circuits with excitation windings in radial slots and a disk rotor with printed windings. To improve noise immunity and increase the voltage and power of the output signal, the rotor disk is made of a nonmagnetic material and the magnetic circuits of the stator are made of a ferromagnetic material. The stator excitation windings are connected in a multipole single-phase circuit. The relative positioning of the magnetic circuits of the stator is effected with a micrometer control device which ensures a minimal residual voltage. Orig. art. has: 1 figure. [DN]

ASSOCIATION: none

Card 1/2

L 62098-65

ACCESSION NR: AP5016734

SUBMITTED: 20Jun63

ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4039

llc
Card 2/2

ACC NR: AP700.2594 (A,N) SOURCE CODE: UR/0413/66/000/023/0101/0101

INVENTOR: Pul'yer, Yu.M.

ORG: none

TITLE: Delay line. Class 42, No. 189231. [announced by Moscow Institute of Railroad Communication Engineers (Moskovsky institut inzhenerov zheleznodorozhnogo transporta)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 101

TOPIC TAGS: circuit delay line, thin film circuit, *ELECTROMAGNETIC WAVE GENERATION*

ABSTRACT:

An Author Certificate has been issued for the delay line shown in Fig. 1. To generate and propagate electromagnetic waves and to simplify delay line

Card 1/2

UDC: 681.142.07:621.374.5

ACC NR: AP7002594

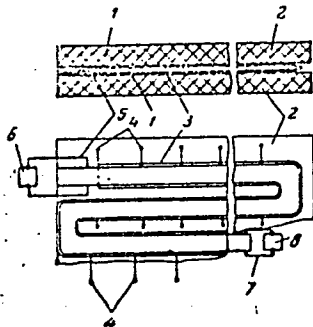


Fig. 1. Delay line

1 - Magnetic films; 2 - nonmagnetic plate;
3 - electroconductive film; 4 - taps; 5 exciting
loop; 6 - electric power source; 7 - output
coil 8 - reception unit.

construction, the electroconductive tape is placed between two narrower
magnetoconductive tapes. The latter have an exciting loop which is connected
to an electric power source and output windings which are connected to the
receiving unit. (sup)

SUB CODE: 09/ SUBM DATE: 01Feb65 / ATD PRESS: 5113

Card 2/2

L 9456-66 EWT(d)/FSS-2/EEC(3):EWA(c) BC

ACC NR: AP5025047

SOURCE CODE: UR/0286/65/000/016/0088/0083

AUTHOR: Pul'yer, Yu. M.

ORG: none

TITLE: Gyroscopic vertical indicator. Class 42, No. 173962

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 88

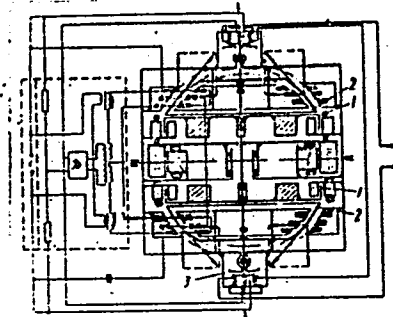
TOPIC TAGS: gyroscopic vertical indicator, gyroscope, vertical indicator, GYROSCOPE SYSTEM

ABSTRACT: This Author Certificate presents a gyroscopic vertical indicator containing a gyroscope with a system of automatic initial setting of the vertical with the help of a sensitive element, correctional torque motors, amplifiers, and signal pickups (see Fig. 1). For increased accuracy, the gyroscope rotor has thin nonmagnetic walls and is suspended with respect to the stator in a magnetic field. It forms the sensing element for accurate correction to keep the gyro-vertical at its initial position after setting. To eliminate distortion of the magnetic field due to angular rotor displacements with respect to the stator, a second feature is provided by having two thin-walled nonmagnetic spherical sections attached to

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UDC: 531.383

L 9456-66
ACC NR: AP5025047



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Fig. 1. 1 - Rotor;
2 - rotor suspension;
3 - induction transducer.

the ends of the rotor shaft. These interact with the magnetic field and provide the suspension. To increase reliability, a third feature provides an induction transducer which simultaneously and independently detects signals for angular and linear adjustments of the stator and rotor using coils which operate both in differential-transformer and in bridge circuit regimes. Orig. art. has: 1 figure.

SUB CODE: 17/

SUBM DATE: 13Aug62

Card 2/2 (u)

POLYER V. M.

Elektricheskie Uglovyye Pogreshnosti i
Ostatochnye Napriazheniia Induktstion-
nykh Schetno-Reshatushchikh Elementov.
Iu. M. Polyer. *Atom. i Telemekh.*, June,
1957, pp. 535-550. In Russian. Calcula-
tion of ratios for angular electrical errors
and for residue voltages of sine-cosine
transformers versus irregular air gap, and
estimation of residual voltages in induc-
tion tachometers caused by variable thick-
ness of rotor.

FUN'YU, Yu.L., Doc Tech Sci--(disc) "Theory and principles of the ~~syn-~~
section of interaction elements for ~~the~~ systems of comput^{ing}-solving auto-
mation and remote control." Nov, 1958. 19 pp (Min of Higher Education
USSR. Mos Center of Lenin Power Engineering Inst), 170 co. i. s. List of
author's works pp 18-19 (18 titles) (IL,47-56,132)

- 2 -

PUL'YER, Yu.M., kandidat tekhnicheskikh nauk.

Contactless tachometer generator with rectangular form of output
voltage curves. Vest. elektroprom, 28 no.4:60-63 Ap '57.
(Electric generators) (MLRA 10:6)

AUTHOR: PUL'YER, Yu.M. PA - 3577
TITLE: Electrical Angular Errors and Residual Voltages in Induction Computers. (Elektricheskiye uglovyye pogreshnosti i ostatochnyye napryazheniya induktsionnykh schetno-reshayushchikh elementov, Russian).
PERIODICAL: Avtomatika i Telemekhanika, 1957, Vol 18, Nr 6, pp 536 - 550 (U.S.S.R.)
ABSTRACT: Main errors of meters of induction computers are dealt with the meters technology being taken into consideration. Ratios for angular, electrical errors and for residual voltages of sine-cosine transformers compared to irregular air gap are obtained, steel losses being taken into account. Residual voltages in induction tachometers caused by variable thickness of a rotor are estimated. The mathematical method under consideration makes it possible to analyze the effect of construction and technology errors of mechanical unit and of magnetic characteristics of steel on electrical errors of induction computers. The analysis of the influence exercised by technological errors upon the amplitude and phase errors and especially upon the zero-th and residual voltages of sine-cosine transformers shows that the probability of obtaining such systems of electromachines with a pure pulsating field are practically equal to zero if they are made from magnetic working material with hysteresis losses. In the case of real

Card 1/2

PA - 3577

Electrical Angular Errors and Residual Voltages in Induction
Computers.

constructions of the said type, magnetic fields (of the elliptical type) will be exist at the expense of the technological factors mentioned, if only one excitation winding is fed. The ratio of the semiaxes in this case will be nearly similar to the ratio of the residual voltage of secondary winding proportional to the maximum winding. To be able to reduce the residual voltages to a minimum, such working materials must be used as show the lowest hysteresis losses.

(9 illustrations and 7 Slavic references)

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 26.7.1956
AVAILABLE: Library of Congress

Card 2/2

AM4037986

BOOK EXPLOITATION

S/

Pul'yer, Yuliy Mironovich

Induction electromechanical elements of computer and remote servomechanisms (Induktsionny*yo elektromekhanicheskiye elementy* vy*chislitel'ny*kh i distantsionno-sledyashchikh sistem), Moscow, Izd-vo "Mashinostroyeniye", 1964, 293 p. illus., biblio. Errata slip inserted. 7,500 copies printed.

TOPIC TAGS: automation, computer engineering, remote servomechanism, induction computer element, contactless DC tachogenerator

PURPOSE AND COVERAGE: This book is devoted to the theory, methods of design, and calculation of induction elements that have been widely used in automatic, computer, and remote servomechanism systems. The book examines the various designs of an electromachine type which permit sine-cosine transformations, work with vectors, and a large group of induction gages and other induction functional-transformer elements used in modern automatic instruments. In addition, there is an analysis of the various types of remote transmissions and the problems of measuring the error of functional transformers of alternating current are discussed. The book is intended for engineers and technicians concerned with problems of design and study

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AM4037986

of electromechanical instrument elements of automatic systems. It will also be useful to graduate students and students in the advanced courses of instrument building training.

TABLE OF CONTENTS [abridged]:

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Part I. Induction systems of the electromachine type with spread windings

Ch. I. A brief review of the use of induction electromechanical counting elements in automatic systems -- 10

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Ch. III. Accuracy of transformer remote transmissions of angle on sine-cosine transformers -- 81

Ch. IV. Two channel transformer remote transmissions with a channel for precise tracing on multipolar repeater transformers -- 106

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Part II. Induction systems with concentrated windings

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AM4037986

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Ch. VIII. Contactless tachogenerators of direct current with a limited range of rotor movement -- 239

Part III. Methods of measuring the error of induction functional elements of automatic systems

Ch. X. Some problems in the theory of amplitude and phase errors of induction elements of automatic systems -- 270.

Ch. XI. Methods of measuring the errors of induction elements of automatic systems -- 281

SUB CODE: EE

SUBMITTED: 15Jan64

NR REF SOV: 065

OTHER: 025

DATE ACQ: 07May64

Card 3/3

PUL'YER, Yu. M.

According to Izvestiya. Acad. Nauk SSSR (OTN' 12, (1888-91) 1953, the following was read at the seminar of the Laboratory of Machine and Instrument Precision, Institute of Machine Science, Academy of Sciences, USSR in 1952 and the first half of 1953.

Yu. M. Pul'yer read a paper "Design of magnetic circuits for inductive computer-resolver elements of the electrical machine type."

SO: St Brit, Min of Defence, DSI Trans #38, May 54, Unclas.

PUL'YER, Yu.M., kand.tekhn.nauk (Moskva)

Contactless sine-cosine rotary selsyn transformers. Elektrichestvo
no.1:5-9 Ja '58. (MIRA 11:2)
(Electric transformers)

PUL'YER, Yu.M.

Instrument for measuring amplitude and phase errors in members
of a.c. computing circuits. Izv.tekh. no.6:48-51 N-D '56.
(MIRA 10:1)

(Electric meters)

PUL'YER, Yu.M.

Contactless electromagnetic ratiometering and regulating mechanisms.
Priberostroenie no.1:17-19 Ja '57. (MLRA 10:4)
(Electric instruments)

PUL'YEF, Yu.M., doktor tekhn. nauk; ASINOVSKIY, E.N., inzh.

Operation of a distance-type transformer transmission system
with tracking and dampened selsyn receivers. Trudy MIIT no. 188:
39-54 '64. (MIRA 17:10)

85370

S/03/60/021/007/013/014/XX
B012/B063

9.8300 (also 1067)

AUTHOR: Paliyer, Yu. M. (Moscow)

TITLE: Transformer Distance Transmission Based on Contactless Two-phase Induction Potentiometers

PERIODICAL: Avtomatika : telemekhanika, 1960, Vol 21, No. 7, pp 1026 - 1034

TEXT: The author of the present paper describes a distance transmission system based on contactless two-phase induction potentiometers. These potentiometers have no two-cascade transformation, exhibit a simple design, and can be produced in very small dimensions. Fig. 1 shows the design of the Δ/Π (DIP) pickup (contactless two-phase induction potentiometer selsyn) and receiver. Transmitter and receiver are connected in series for distance transmission. Unlike the single-phase potentiometer described in Ref. 8, this pickup has two pairs of coils which are mutually rotated by 90° . Each of these coils encloses the central stator plates of a T-shaped stator (Fig. 1a) or the lateral plates (one or both) of a Π -shaped stator (Fig. 1g). Each

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Transformer Distance Transmission
Based on Contactless Two-phase
Induction Potentiometers

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pair of coils forming a phase connected such that the emf and the currents are in opposite directions to each other. By using the terms commonly used for selsyns, the two-phase windings of the pickup and receiver are called synchronizing windings. The ring winding is the same that was used for the potentiometer described in Ref. 8, and forms the exciting coil of the pickup and the signaling coil of the receiver (Figs. 1a and 1b, respectively). The rotor of DIP is a plate having the form of a semicylinder. Pickup and receiver differ in their design only by their sizes and by the number of turns. The mode of operation of distance transmission with these potentiometers is described, after which the long-range transmission within the range $0 < x < \pi/2$

is studied. This range corresponds to the linear sections of the ideal theoretical characteristics of the output voltages of idle running at the synchronizing coils. A set of equations for the distributed magnetic circuit of the transmitter and receiver is determined with the help of the scheme of Fig. 1. 10 equations with 10 unknowns are

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Transformer Distance Transmission
Based on Contactless Two-phase
Induction Potentiometers

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obtained. which are solved by successive substitutions. From formula (26) obtained for the signal voltage U_2 , it may be seen that the signal voltage of the pickup is proportional to the mismatching angle between the rotors in the range $0 < x_1 < \tau/2$ while that of the receiver is proportional to the rotors in the range $0 < x_2 < \tau/2$. The rotor of the pickup is perpendicular to that of the receiver if the system is in "matching position". Next, the author studies the operation of the system for all other possible positions of the pickup and receiver rotors and, consequently, for all mismatching angles that are larger than $\pm \tau/2$ and include all regions with the points of inflection of the linear characteristics of the secondary currents or voltages. Formula (28) determines the change in the signal voltage of the receiver for all positions of the transmitter and receiver rotors that correspond to any mismatching and to the unsteady regions of the synchronizing currents. The distance transmission described by the

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Transformer Distance Transmission
Based on Contactless Two-phase
Induction Potentiometers

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author guarantees a rotor following but shows only a stable matching position Both the pickup and the receiver are elements with a single-cascade transformation. The absence of a reaction allows several receivers to be connected to one pickup. There are 2 figures and 8 references: 7 Soviet and 1 German.

SUBMITTED: November 5, 1959

JX

Card 4/4

PUL'YER, Yu.M. (Moskva)

Induction linear potentiometer. Avtom. i. telem. 17 no.7:
620-636 J1 '56. (MLBA 9:10)

(Potentiometer)

PUL'YEV, Yu.M. (Moskva)

Long-distance transmission of angle displacement using
transformers and two-phase contactless induction potentiometers [with summary in English]. Avtom. i telem. 21
no.7:1026-1034 J1'60. (MIRA 13:10)
(Servomechanisms)

PUL'YER, Yuliy Mironovich; CHISTYAKOV, N.I., doktor tekhn. nauk,
prof., retsenzent; ANVEL'T, M.Yu., kand. tekhn. nauk,
dots., red.; YERMILOVA, L.F., red.izd-va; SKOTNIKOVA,
N.N., tekhn. red.

[Inductive electromechanical components of computing and
distance-type servo systems] Induktsionnye elektromekha-
nicheskie elementy vychislitel'nykh i distantsionno-
slediashchikh sistem. Moskva, Izd-vo "Mashinostroenie,"
1964. 293 p. (MIRA 17:4)

Pylygin, Yu. S.

800-1-PMK

ZHURNAL EKSPERIMENTALNOI I TEORICHESKOI FIZIKI

Vol 31, Nr 4 (10), 1956

PRODUCTION OF POSITIVE π -MESONS BY 660 MEV
PROTONS ON HYDROGEN

~~100-1-PMK~~

A. G. Mechkovsky, Yu. S. Pylygin, Ya. Ya. Shalamov, V. A. Shebanov

The energy spectrum for charged π -meson production in the $p+p \rightarrow \pi^+$ reaction has been obtained for angles of 29° and 46° with respect to the proton beam. The differential cross sections for angles 29° , 46° and 65° in the laboratory system have been measured.

100-1-PMK

1957, 1.

1909. Лыжи. (Заметки Охотника). Физкультура и спорт, 1949, No. 9,
с. 27

50: Анзимова, летопись', Vol. 7, 1955

PULYUGIN, G. T.

Chem

✓ Cyanine dyes. VI. *N-m*-nitrophenylquinaldinium perchlorate and its conversion. G. T. Pulyugin and Z. Ya. Krainer (*Zh. obshch. Khim.*, 1955, 28, 2271-2274).—A study was made of cyclization reactions of *m*-nitrodiphenylamine into deriv. of *N*-arylquinaldins, forming quaternary salts (e.g., *N-m*-nitrophenylquinaldinium perchlorate). Cyclization could proceed in two directions, with formation of (1) *N*-phenyl-8-nitroquinaldinium chloride, or (2) *N-m*-nitrophenylquinaldinium chloride. Symmetrical di-[2-1-*m*-nitrophenylquinoline]trimethincyanine perchlorate was obtained by condensation of the salts with orthoformic esters. By condensation of *N-m*-nitrophenylquinaldins with 2- β -acetanilidovinyltrimethylindolenine iodide and 2- β -acetanilidovinylbenzthiazole ethiodide, unsymmetrical [2-1-*m*-nitrophenylquinoline][2-1 : 3 : 3-trimethylindole]trimethincyanine perchlorate was obtained. From quaternary salts and quinoline ethiodide, [2-1-*m*-nitrophenylquinoline][4-*N*-ethylnaphthylamine]methincyanine perchlorate was obtained.

A. L. B.

2

PUME, D., inz. CSc.

"Modernization of the brick industry" by Antonin Soucha, Jiri Prorok. Reviewed by D.Pume. Stavivo 42 no.2:2 of cover F'64.

PUME, D., inz. CSc.

"Keramzit-reinforced concrete" by G.A. Buzevic [Buzhevich, G.A.], N.A.Kornev. Reviewed by D. Pume. Stavivo 42 no. 3: 118-119 Mr '64.

PUME, D.

PUME, D. A new rule for the calculation of stone structures in the Soviet Union. p. 262

Vol. 4, no. 7, July 1956

POZEMNI STAVBY

TECHNOLOGY

Praha, Czechoslovakia

So: East European Accession Vol. 6, no. 2, 1957

PUNE, D.

Modern masonry structures in industrialized construction. p. 323

STAVIVO. (Ministerstvo stavebnictvi) Praha, Czechoslovakia. Vol. 37, no. 10,
Oct. 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 12, Dec. 1959
Uncl.

PUME, D., inz., C.Sc.

Masonry from rough ceramics in Italy. Stavivo 41 no.2:68-70 F '63.

Comments of Comrade V. Novacek on the revision of standard CSN 1182-1948 for baked bricks. p. 356. STAVIVO. (Ministerstvo stavebnictvi) Praha. Vol. 32, no. 10, Oct. 1954.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

FUME, B., Inc. Co.

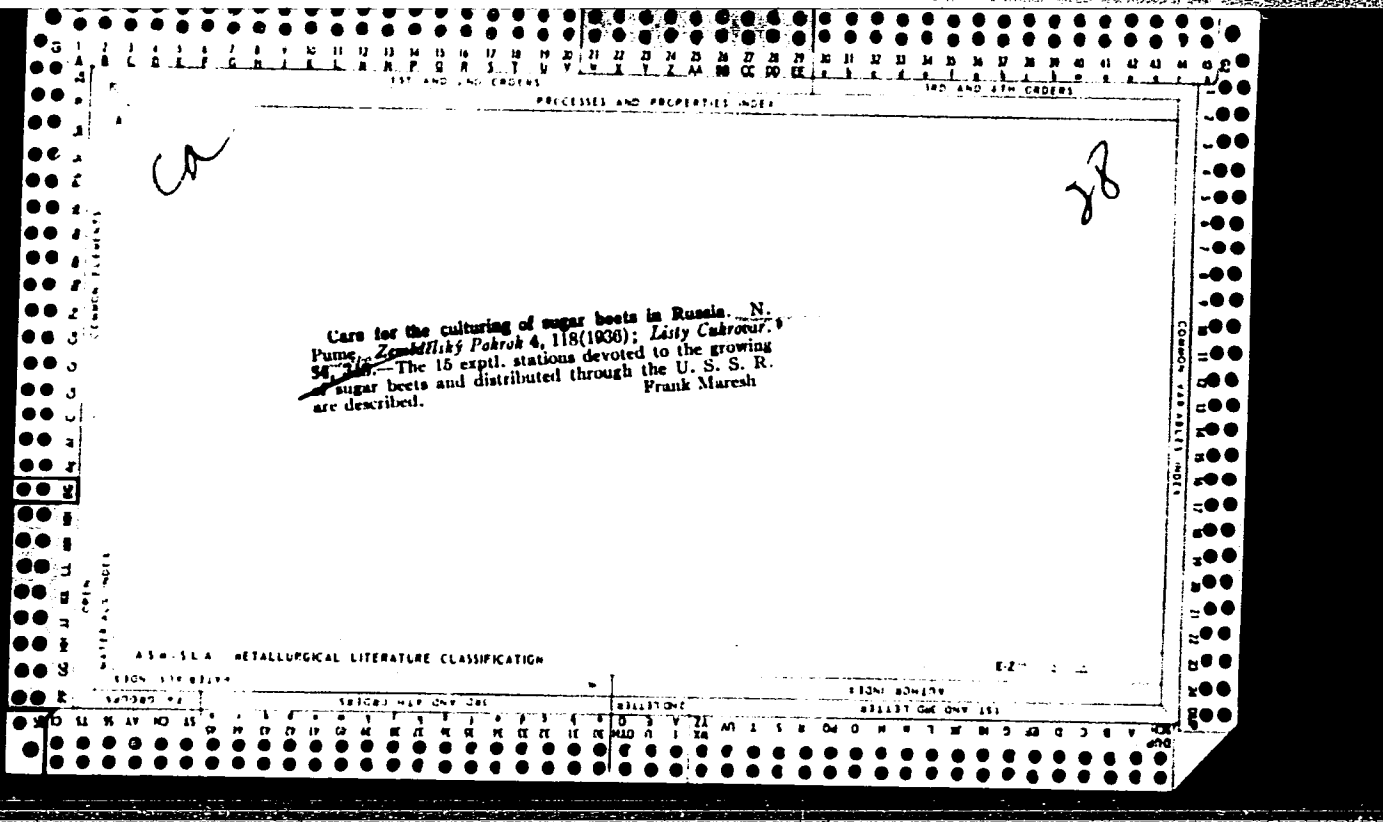
Ceramic panels from the viewpoint of statics. Stavivo 42 no.12:
446 D '62.

1. Research Institute of Building Construction, Prague.

PUMB, N.

Andrei Timofeevich Bolotov, the first Russian scientist in the field of agronomy.
Tr. from the Russian. p. 575. (Za Socialistické Zemedelstvi, Vol. 3, #5, May 1953,
Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2 #8 , Library of Congress,
August 1953, Incl.



PUME, NIKOLAJ.

Rusko-cesky zemedelsky slovník. Sest. Nikolaj Pume a Boris
Pankov, za spolupráce Jar. Spirhanzla. [Vyd. 1.] Praha, Brazda,
1951. 1182 p. [Russian-Czech agricultural dictionary. 1st ed.]

SOURCE: East European Accessions List, (EEAL) Library of
Congress, Vol. 6, No. 1, January 1957

MININOV, A.P.

Quaternary spore-pollen spectra in the sediments of river terraces in the eastern part of the Central Siberian Plateau and their significance for stratigraphic and paleogeographic comparisons. Uch. zap. NIIGA no.5:16-56 '64. (MIRA 18:8)

FUMINOV, A.F.

Cover formations in the Anabar-Lena interfluve. Trudy Inst. geol.
i geofiz. Sib. otd. AN SSSR no.27:102-117 '62.

(MIRA 17:11)

ARKHIPOV, Stanislav Anatol'yevich; MATVEYEVA, Ol'ga Vladimirovna; PUMINOV,
A.P., kand. geol.-mineralog. nauk, otv. red.; SNITSARENKO, A.A.,
red.

[Quaternary of the southern margin of the Yenisey Depression.]
Antropogen iuzhnoi okrainy Eniseiskoi depresii. Novosibirsk,
1964. 127 p. (Akademiia nauk SSSR. Sibirskoe otdelenie. Insti-
tut geologii i geofiziki. Trudy, no.29)

(MIRA 17:12)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR
(for Puminov).

PUMINOV, A.P.

Preliminary results of the field work of the Taymyl'skaya
expedition of 1958. Inform. biul. NIIGA no.2:54-60 '58.

(MIRA 12:10)

(Russia, Northern--Diamonds)

OKLADNIKOV, A.P.; PUMINOV, A.P.

Ancient traces of man on the Olenek River. Probl. Sev. no.1:
354-359 '58. (MIRA 11:12)

1. Institut istorii material'noy kul'tury AN SSSR.
(Olenek Valley--Man, Prehistoric)

OKLADNIKOV, A.P.; PUMINOV, A.P.

First neolithic finds in the Olenek Valley. Biul. Kom. chetv.
per. no.22:105-113 ' 58. (MIRA 11:11)
(Olenek Valley--Stone age)

STRELKOV, S.A.; DIBNER, V.D.; ZAGORSKAYA, N.G.; SOKOLOV, V.N.; YEGOROVA, I.S.; POL'KIN, Ya.I.; KIRYUSHINA, M.T.; PUMINOV, A.P.; YASHINA, Z.I.; SAKS, V.N., red.; NIKITINA, V.N., red. izd-va; GUROVA, O.A., tekhn. red.

[Quaternary sediments in the Soviet Arctic] Chetvertichnye otlozheniia Sovetskoi Arktiki. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhr. nedr, 1959. 231 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol. 91). (MIRA 13:5)

(Russia, Northern--Geology).

PEREKOV, A.V.; ZAKHAROV, B.V.

Peat from the Iuz Delta (northeastern part of the Central
Siberian Plateau). Truly NISOL 128.170-183 '81.
(MIPA 14.10)
(Iuz Delta (lent.) Siberian Plateau--Peat bogs)

FUMILOV, A.F.

History of lower Lena and Olenek Valleys. Trudy NIIGA 114:
163-172 '60. (MIRA 13:11)

(Lena Valley)

OKLADNIKOV, A.P.; PUMINOV, A.P.

Neolithic finds in the Olenek Valley. Trudy NIIGA 65:73-78 '59.
(MIRA 13:12)

(Olenek Valley--Eoliths)

BARANOVA, Yu.P.; BISKE, S.F.; ~~PUMINOV, A.P.~~

Paleogeography of the upper Olenek and Markha Basins. Trudy NIIGA
67:163-176 '58. (MIRA 12:10)

(Olenek Valley--Paleogeography)

(Markha Valley--Paleogeography)

PUMINOV, A.P.
PUMINOV, A.P.

First finds of pyrope in alluvial deposits of the Russian Platform.
Trudy Nauch.-issl. inst. geol. Arkt. 89:318-321 '56. (MIRA 11:1)
(Russian Platform--Pyrope)

PUMER, Csaba

Remark about Etele Csanady's article entitled "Data on the
reduction of the grid voltage of electron tubes." Radiotechnika
13 no.8:287 Ag '63.

FUMMER, Csaba

Transistor tuning oscillator. Radiotechnika 11 no.2:37-38
F '61.

NAGY, Jenó; PUMMER, Sandor

Intermediate-frequency transformer in the transistor super set.
Radiotechnika 10 no.3:67-69 Mr '60

CA

2

Max Burch (1848-1941). ~~Rudolf Pannowicz~~ ~~Sister~~,
phys.-med. *Scienti Erlangen* 72, xxxiii-ii(1940-41)(Pub
1942); cf. *C.A.* 27, 1631⁰.—Obituary, with portrait,
an account of B.'s chem. work, and bibliography of 142
papers. W. C. Tobie

PUMNER, YE.

USSR (600)

Radio - Apparatus and Supplies

Crystal three-electrode tubes. Radio 6, 1952.

Monthly List of Russian Accessions, Library of Congress, August 1952. Unclassified.

ANGYAL, T.; TOTH, L.; PUMP, K.

Data regarding the enteropathogenicity of staphylococci in infants.
Acta Paediat Acad Sci Hung 1 no.4:301-313 '60.

1. Institute of Microbiology and Department of Paediatrics, University
Medical School, Pecs.

(FECES microbiol) (STAPHYLOCOCCUS)

PUMP, KARL

GERMANY / Chemical Technology. Chemical Products and H
Their Application. Ceramics. Glass. Binding
Materials. Concretes.

Abs Jour: Ref Zhur-Khimiya, No 19, 1958, 65143

Author : Richter Walter, Pump Karl

Inst : -

Title : Manufacture, Properties and Application of High-
Fireproof Objects Made of Several Pure Oxides

Orig Pub: Silikattechnik, 1958, 9, No 2, 74-77

Abstract: A review of the methods of manufacture and of the
technically important properties of high-fireproof
objects made from oxides of Zr, Be, Mg, Ca. Fields
of application of these objects are indicated.
Bib. 20 titles.

Card 1/1

24

PUMP, Karoly, dr.; GYODI, Gyula, dr.; FEKETE, Miklos, dr.

The importance of antistreptolysin-O, electrophoresis and c-reactive protein tests in acute glomerulonephritis in children. Gyermekgyogyaszat 14 no.9:257-261 S '63.

1. Pecsı Orvostudományi Egyetem Gyermekklinikaának (Igazgato: Kerpel-Fronius Odon dr., egyetemi tanar) közleménye.
(GLOMERULONEPHRITIS) (ANTISTREPTOLYSIN)
(ELECTROPHORESIS) (C-REACTIVE PROTEIN)
(BLOOD PROTEIN DISORDERS)

PUMP, Karoly, Dr.; UJHELYI, Karoly, Dr.

Data on serodiagnosis of whooping cough. Gyermekgyógyászat 10 no.9:
281-284 Sept 1959

1. A Pécsi Orvostudományi Egyetem Gyermekklinikájának (Igazgató:
Dr. Kerpel Fronius Odon egyetemi tanár) és az Országos Közegészségügyi
Intézet (Főigazgató: Dr. Bakács Tibor) Oltoanyagkutató Osztályának
közleménye.

(WHOOPI NG COUGH, diag.)

(SERODIAGNOSIS)

HEAD, KAROLI

KISS, Tibor, dr.; MAJOR, Vencel, dr.; ~~PUMP, Karoly, dr.~~; VANKI, Karola, dr.

Case of infantile typhus abdominalis. Gyermekgyogyaszat 7 no.5-6:
187-190 May-June 56.

1. Budapest Fovaros Lazslo-Korhaz (igaz.-foorvos: Ferencz Pal dr.)
es a Balassagyarmati Jarasi Tanacs Korhazanak (igaz.-foorvos: Dobos
Imre dr.) kozl.

(TYPHOID FEVER, in inf. & child

in newborn inf., incidence & bacteriol. (Hun))

(INFANT, NEWBORN, dis.

typhoid fever, incidence & bacteriol. (Hun))

PALL, Gabor, dr.; VANKI, Karola, dr.; PUMP, Karoly, dr.

Clinical and therapeutic data on strongyloidiasis. Orv. hetil.
97 no.7:181-185 12 Feb 56.

1. A Varosi Tanacs Korhaza Balassagyarnat (igas. Dobos Imre dr.)
Gyermek, (foorvos: Holik Samuel dr. es Laboratoriumanak (foorvos:
Vanki Karola dr.) kosl.

(STRONGYLOIDIASIS, in inf. & child
clin. & ther. aspects. (Hun))

PUMPAYNSKIY, V.; FEL'DMAN, P.

The "Belarus' 53" radio receiver. Radio no.6:29-33 Je '54.
(Radio--Receivers and reception) (MLRA 7:7)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

50

Measurement of ultra-sound wave velocity in gases at low pressures. E. Ya. Pumper. *J. Exptl. Theoret. Phys. (U. S. S. R.)* 5, 976-82(1935).--Data for air and CO₂ are discussed. F. H. Rathmann

50

51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

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BC a-1

Velocity of ultrasonic waves at low pressures.
E. J. PUMPA (Physikal. Z. Sovietunion, 1935, 8, 300-310).—The influence of pressure on the velocity of ultrasonic waves in air and in CO₂ at low pressures has been studied, and the reasons for the observed deviations from classical laws are discussed.

R. S.

METALLURGICAL LITERATURE CLASSIFICATION

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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PROCESSES AND PROPERTIES INDEX

Measurement of the absorption of ultrasonic waves in air and in argon. A. T. Dadyan and E. Ya. Pumper. *Compt. rend. acad. sci. U. R. S. S.* 20, 539-42 (1938) (in French).—According to the theory of Stokes and Kirchhoff, $\alpha \lambda^2$ for $p = 1$ atm. should be a const. for monatomic gases; for polyatomic gases an addnl. absorption has been proposed recently. If it is assumed that waves are plane, the following values are obtained for $\alpha \lambda^2$ for air at the indicated frequencies: 0.00002, 379; 0.00051, 481.5; 0.00028, 577; 0.00017, 715. for A: 0.00047, 481.5; 0.00032, 715. According to Stokes and Kirchhoff the values should be 0.000105 and 0.000185, resp. When corrected for the deviation from plane waves, the exptl. values for air fall between 0.00025 and 0.00028, and those for A become 0.00022. George Ayers

2

METALLURGICAL LITERATURE CLASSIFICATION

A 58-11A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PROCESSES AND PROPERTIES INDEX

PUMPER, Y. V.
Bo *A-1*

Supersonic absorption in helium. P. KRASNOOSCHKIN and E. PUMPER (Compt. rend. Acad. Sci. U.R.S.S., 1939, 23, 448-449).—Preliminary measurements of the supersonic absorption in He at frequencies from 500 to 952 kHz. indicate that the recorded data for He and Ne are erroneous. The present measurements support the theory of Stokes and Kirchhoff for the absorption of a sound wave by a monat. gas, as do the previous data for A (A., 1939, I, 189). W. R. A.

and Physics Research Data Series

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

OPEN (COUNCIL LIBRARY)
MATERIALS INDEX

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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PROCESSES AND PROPERTIES INDEX

C A 3

Investigation of the vibrations of piezo quartz plates by the interferometer method. M. L. Kotharevskii and E. J. Pumpert, *J. Phys.* (U. S. S. R.) 4, 67-78(1941)(in German).—Exptl. results show that the frequency spectrum of a piezo quartz plate is completely detd. by the crystal structure, size and boundary conditions of the plate; casual inhomogeneities only distort the spectrum. The symmetry of the configurations of a plate cut perpendicular to the electric axis is a *criterion of its homogeneity*. Opposite faces usually show antisymmetrical vibration. F. H. Rathmann

AS & SLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED SERIALIZED FILED

APR 1942

PA 4T113

PUMPER, E. J.

USSR/Physics
Ultrasonic apparatus

1945

"Methods of Measuring Supersonic Absorption," E. J.
Pumper, 3 pp - Inst. Phys. in Leningrad, AS USSR

"CR Acad Sci" Vol XLIX, No 8

Survey and evaluation of the principal methods employed by various authorities to determine supersonic absorption in gases.

4T113

W. E

W. E. & G. M. M. M. M.

1948
A Method for Experimental Investigation of the
Statistics of Electric Fluctuations. - E. J. Pompe
U. S. Geol. Surv. Prof. Paper 10th July 1948 Vol. 31
No. 1 pp. 1-12. In English.

1948

PUMPER, YE. YA.

"Some Peculiarities of Electrical Transients," Dok. AN, 57, No. 8, 1947

GTRSPFL, Vol. 2 No. 3

Pumper, E.Ya. (P.N. Lebedev Physics Institute, U.S.S.R. Academy of Sciences), Energy of electrical fluctuations in conductors, 1112-29.

"The fundamental results of the investigation are the following:

1. Measurements show that, in the case of a series of thin metallic conductors and of graphite resistors, the noise level is higher than the theory of the heat effect would predict, and that the discrepancy increases with frequency.
2. Experiments with an electrolyte and annealed resistors showed that, in addition to the thermal effect fluctuations, the latter may be caused by a rare additional nonequilibrium process.
3. Experiments on heated resistors showed that additional noise can be destroyed on rapid annealing.
4. Experiments with the electrolyte and with heated resistors give bases for the assumption that the observed increase above the theoretical in the level of the fluctuations is due to the evolution of energy from the crystal lattice, and is associated with the phenomenon of crystallization."

Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki, Vol. 18 No. 12, p. 1112-1129,

Dec, 1978

PUMPER, E. YA.

PA47T18

USSR/Chemistry - Thermoelectricity
Chemistry - Electrolytes

Mar 1948

"Thermal Electrical Fluctuations in an Electrolyte,"
E. Ya. Pumper, Phys Inst imeni P. N. Lebedev, Acad
Sci USSR, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 3

p. 1415-16
Describes experiment providing measurement of thermal electrical fluctuations using electrolytic resistance in form of glass U-tube 4 mm in diameter, 12 cm long and 3 cm wide with platinum electrodes soldered at the ends. Submitted by Academician M. A. Leontovich, 13 Jan 1948.

47T18

USSR/Electricity

21 Mar 1948

Vacuum Tubes
Currents, Electric

"Fluctuations of Electric Current in Electronic
Tubes with Tungsten Cathode," Ye. Ya. Pumper, Phys
Inst Imeni P. N. Lebedev, Acad Sci USSR, 3 pp

"Dokl Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

p-1179-62

Electron tube with tungsten cathode is clear exam-
ple of physical system in which fluctuations occur.
tain, in addition to Gauss' process, an additional
statistical process governed by essentially differ-
ent law of determination of probabilities. Example
under study permits study of the effect which, under

5174

USSR/Electricity (Contd)

21 Mar 1948

certain conditions, this additional process may have
on general presentation of fluctuations of the anode
current in spite of the minute value of its energy.
Submitted by Academician M. A. Leontovich, 19 Jan
1948.

5174

a
PUMPER, Ye. Ye.

P

35-P. Use of Measurement of Electric Fluctuations as a Method for Investigating Processes in Metals. (In Russian.) E. Ye. Pumper. *Izvestiya Akademii Nauk SSSR (Bulletin of the Academy of Sciences of the USSR), Physical Series*, v. 13, Sept.-Oct. 1949, p. 595-614.

Studied in connection with electrical resistance of different materials and in connection with fluctuations in electron tubes containing tungsten cathodes. Results confirm validity of the theory of fluctuations proposed. 11 ref. (P15)

USSR S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

PA 3/50T72

USSR/Metals - Tempering
Electric Fluctuations

11 Sep 49

The level of Electric Fluctuations in Certain Metals After Tempering," Ye. Ya. Pumper, Phys Inst Izv Ak Nauk SSSR, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXVIII, No 2

pp 41-44

Results of measuring Boltzmann's constant for nichrome which had undergone tempering at a frequency of 16,000 cycles. Constant had a theoretical value of 1.38-10-16 ergs/degree for several days after tempering. After 6 days, it again approached the same level of resistance as before

3/50T72

USSR/Metals - Tempering (Contd)

11 Sep 49

tempering. Measurements of electric fluctuations may lead to a new methodology for studying processes in metals. Submitted by Acad M. A. Leonovitch 19 Jul 49.

3/50T72

PUMPER, YE. YA.

Level of electrical fluctuations in several metals after annealing. E. Ya. Pumper (Acad. Sci., U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 68, 277-9(1949).—The level of elec. fluctuations decreases the thermal value in nichrome and advance alloys after rapid cooling but not after slow cooling. However, after several days the level increases again in the quenched alloy. Nichrome annealed at 350 to 400° in a field of 10,000 Hertz shows an initial value of Boltzmann's const. of 1.39×10^{-16} , and the following values after the given no. of days: 1—1.38, 2—1.39, 3—1.39, 6—1.43, 7—1.53, 8—1.53. The effect may be due to aging of the alloy. Thus, in pure Cu, Ni, Au, and in 0.2-mm. diam. W wire only the normal value is found. However, annealed 0.03-mm. W wire in 58,000 Hertz shows an initial const. of 1.03, a max. value of 2.0 after 6 days, and a value of 1.38 after 52 days. The latter value is lower than that of the unannealed alloy, 1.5. The process involved may be surface-sensitive. This method is a possible one for studying metal reactions. A. G. G.

TORREY, Henry Cutler; WHITMER, Charles A.; PUMPER, Ye.Ya., redaktor
[translator]; BASKAKOVA, L.B., redaktor; URAZOVA, A.N., tekhnicheskiy redaktor.

[Crystal rectifiers] Kristallicheskie detektory. Perevod s angliiskogo pod red. E.IA.Pumpera. Moskva, Izd-vo "Sovetskoe radio." Pt. 1.
1950. 330 p. [Photostat] (MIRA 8:2)
(Radio--Rectifiers)

PUMPER, Ye. Ya.

"Experimental Investigation of Fluctuations in Electrical Systems." Thesis for degree of Dr. Physico-Mathematical Sci. Sub 24 Oct. 50, Physics Inst imeni P. N. Lebedev, Acad Sci USSR.

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

PUMPER, Ye. Ya.

USSR/Physics - Light
New Techniques

Jul 50

"Method for Obtaining Short-Duration Light Pulses," S. M. Rayskiy, Ye. Ya. Pumper,
Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Tekh Fiz" Vol XX, No 7, pp 822-824

Describes simple mechanical apparatus for obtaining periodic groups of light impulses.
Duration of individual pulse can be brought to 1/10 microsec. Time between two
pulses is of same order. Pulses are recorded by cathode oscillograph. Submitted
25 Mar 49.

PA 164T64

FUSTER, Ye. Ya.

PA 175T93

USSR/Physics - Electrical Measure- 21 Jun 50
ments
New Techniques

"Investigating the Process of Regulation in CuZn Alloy by Measuring the Electrical Fluctuations," Ye. Ya. Fuster, Phys Inst Imeni Lebedev, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXII, No 6, pp 1033-1036

Concludes measurement of elec fluctuations can definitely be considered as method of analysis of processes in metals. Tests conducted on CuZn

175T93

USSR/Physics - Electrical Measure- 21 Jun 50
ments (Contd)

wires 0.2 mm in diam to obtain curves of resistance and temp vs time for various initial conditions. Submitted 22 Apr 50 by Acad M. A. Leontovich.

Evaluation B-79294

175T93

PUMPER, YE.

EA 236126

USSR/Electronics - Transistors

Jun 52

"Crystal Triodey" Ye. Pumper

"Radio" No 6, pp 21-25

Discusses electrical properties of semiconductor effects in the contact layer of a crystal detector, the crystal triode, and crystal triode circuits. States that explanation of processes in the contact layer between semiconductor and the contact point of detector was given by Soviet physicists working under the direction

236126

of Acad A. F. Ioffe and Prof V. Ye. Lashkarev. Mentions junction transistor. There is no information on Soviet transistor developments in this article.

236126

PUMPER, Ye.Ya.; VAVILOV, V.S., redaktor; SKVORTSOV, I.M., tekhnicheskii
redaktor

[Crystal diode and triode tubes] Kristallicheskie diody i triody.
Moskva, Gos. energ. izd-vo, 1953. 174 p. (Massovaya radiobiblioteka,
no.188) (MLRA 7:10)
(Electron tubes)

PUMPER, Ye. Ya.

4

2334. ANALYSIS OF TRANSISTOR INTERMEDIATE-FREQUENCY AMPLIFIERS. 021.375.426.020.54

Point-contact triodes are considered whose parasitic capacitances are neglected and whose current gain is supposed independent of frequency. The use of a tapped single-tuned circuit as a coupling element is examined and it is concluded that complete matching to input and output impedances is never possible. With a band-pass filter, symmetrical matching is possible and expressions are deduced for two forms of coupling which enable inductances and coupling factor to be determined. For responses that are 3 dB down at 10 kc/s, the loaded-Q and adjacent selectivity of 4 coupling arrangements between a pair of given transistors are tabulated for i.f.'s of 110 and 465 kc/s.

S.C. Dunn

(2)

(5) *[Handwritten signature]*

FD-3191

USSR/Physics - Semiconductors

Card 1/1 Pub. 153-21/21

Authors : Bonch-Bruyevich, V. L. and Pumper, Ye. Ya.

Title : On the formula for the volt-ampere characteristics of n-p transfer

Periodical: Zhur. tekhn. fiz., 25, No 8 (August), 1955, 1520-1521

Abstract : The authors discuss the well known volt-ampere characteristics formula which is derived on a theoretical basis. They state that the small amount of experimental evidence available indicates a reasonably close harmony between theory and fact. They assert, however, that in certain ranges the formula departs too much from observed values to be of much value. They introduce a factor which they claim will make the formula much more accurate in these critical ranges. They suggest further experiments to establish the validity of their assertions.

Submitted : November 24, 1954

ACC NR: AP7002411

SOURCE CODE: UR/0363/66/002/012/2252/2254

AUTHOR: Yestaf'yeva, G. N.; Prostoserdova, I. V.; Pumper, Ye. Ya.

ORG: All-Union Electrotechnical Institute im. V. I. Lenin (Vsesoyuznyy elektrotekhnicheskiy institut)

TITLE: The effect of annealing on the electrical property on indium antimonide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 12, 1966, 2252-2254

TOPIC TAGS: indium antimonide semiconductor, semiconductor conductivity, pn junction, pnp junction, annealing

ABSTRACT:

A study was made of the causes of inversion of electrical conductivity after annealing n-type InSb semiconductors. Annealing experiments were carried out at 410 or 480C in vacuum with 1 mm thick InSb wafers with 10^{14} cm⁻³ donor concentration and 100 cm⁻² or 10^4 cm⁻² dislocations density. Also, experiments with zinc diffusion were conducted at 440C before and after annealing. Inversion of electrical conductivity was found to depend on dislocations density and on the interaction of the semiconductor with the

UDC: 546.682'861:541.12.03

Card 1/2

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L 5363-66 EWT(m)/EWP(t)/EWP(b)
ACC NR: AP5027402

IJP(e) JD
SOURCE CODE: UR/0181/65/007/011/3255/3259

50
03

AUTHOR: Prostoserdova, I. V.; Pumper, Ye. Ya.; Troneva, N. V.

ORG: All-Union Electrical Engineering Institute (Vsesoyuznyy elektrotekhnicheskiy institut im. V. I. Lenina); State Design and Planning Scientific Research Institute of the Rare Metals Industry, Moscow (Gosdrastvennyy nauchno-issledovatel'skiy i proyektnyy institut redkometallicheskoy promyshlennosti)

TITLE: Mechanism of the anomalous diffusion of zinc in indium antimonide

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3255-3259

TOPIC TAGS: zinc, indium compound, antimonide, metal diffusion

ABSTRACT: Various models have been proposed to explain the anomalous diffusion of zinc in A^{III}B^V compounds. Nearly all these models are based on the assumption that the zinc atoms exist in two state S₁ and S₂ with different coefficients of diffusion D₁ and D₂ and concentrations C₁ and C₂. The author conducts experiments to record both diffusion fluxes for zinc in indium antimonide. The zinc was diffused into n-InSb plates at 440°C and the specimens were then annealed for various periods.

Card 1/2

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L 5363-66

ACC NR: AP5027402

The distribution of acceptor concentration was measured by the probe method, and the total number of Zn atoms was measured by the local x-ray spectral method. The experimental conditions made it possible to record two separate diffusion fluxes of zinc in indium antimonide with comparable surface concentrations and coefficients of diffusion $D_1 = 3 \cdot 10^{-10} \text{ cm}^2 \cdot \text{sec}^{-1}$ and $D_2 < 10^{-3} D_1$. Probe measurements of Zn concentrations in InSb indicate that the S_2 state is substitutional. The experimental data indicate that the form of the distribution curve is determined by interaction between the two diffusion fluxes. The mechanism of this interaction may be similar to the trap mechanism (Ye. Ya. Pumper, I. V. Prostoserdova, *PTT*, 6, 899, 1964) or to the mechanism responsible for diffusion of charged and neutral zinc atoms (J. W. Allen, *J. Phys. Chem. Sol.*, 15, 134, 1960). Orig. art. has: 3 figures.

SUB CODE: SS,MM/

SUBM DATE: 09Feb65/

ORIG REF: 005/

OTH REF: 003

OC
Card 2/2

ACC NR: AP7002411

SOURCE CODE: UR/0363/66/002/012/2252/2254

AUTHOR: Yestaf'yeva, G. N.; Prostoserdova, I. V.; Pumper, Ye. Ya.

ORG: All-Union Electrotechnical Institute im. V. I. Lenin (Vsesoyuznyy elektrotekhnicheskiy institut)

TITLE: The effect of annealing on the electrical property on indium antimonide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 12, 1966, 2252-2254

TOPIC TAGS: indium antimonide semiconductor, semiconductor conductivity, pn junction, pnp junction, annealing

ABSTRACT:

A study was made of the causes of inversion of electrical conductivity after annealing n-type InSb semiconductors. Annealing experiments were carried out at 410 or 480C in vacuum with 1 mm thick InSb wafers with 10^{14} cm⁻³ donor concentration and 100 cm⁻² or 10^4 cm⁻² dislocations density. Also, experiments with zinc diffusion were conducted at 440C before and after annealing. Inversion of electrical conductivity was found to depend on dislocations density and on the interaction of the semiconductor with the

Card 1/2

UDC: 546.682'861:541.12.03

ACC NR: AP7002411

ambient medium and was caused by vaporization of In and Sb atoms. The greater vaporation from the surface defects of the wafer than from its interior explained the higher concentration of acceptors on the surface of the annealed specimens. The Cu and Mg impurity atoms which were detected in the InSb wafers were separated from the surface defects by annealing and contributed to an additional accumulation of acceptors near the surface. The p-n-p junction was formed in the InSb wafers by annealing at 480C and by subsequent Zn diffusion or vice versa. This was due to the chemical reaction below the diffusion layer between Zn atoms and the impurity atoms which were separated by annealing from the structure defects in the bulk of the wafer and which were diffused to the surface. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 24Jun65/ ORIG REF: 004/ OTH REF: 005
ATD PRESS: 5111

Card. 2/2