S/109/60/005/07/008/024
E140/E163

Excitation of Waveguide Systems by an Electron Stream with Prescribed Modulation

attempts to generalise the method in Refs 1 and 2 to the case of excitation of waveguide systems by an electron stream with non-monochromatic modulation, moving over arbitrary defined periodic trajectories independent of the high-frequency field. This then permits a unified treatment of the problem of waveguide excitation. Electron streams are considered with parameters varying periodically along the z-axis of the waveguide system, and of limited length. The method of solution consists in investigating the behaviour of a fictitious waveguide resonator occupied by the exciting current and moving along the system with velocity of the beam. Various special cases are considered. There are 4 figures and 6 Soviet references.

SUBMITTED: September 16, 1959

Card 2/2

PHASE I BOOK EXPLOITATION SOV/5135

Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova

100 let so dnya rozhdeniya A.S. Popova; yubileynaya sessiya (One Hundredth Anniversary of the Birth of A.S. Popov; Anniversary Session) [Moscow] Izd-vo AN SSSR, 1960. 312 p. Errata slip inserted. 2,800 copies printed.

Sponsoring Agency: Akademiya SSSR.

Chief Ed.: A.L. Mints, Academician; Editorial Board: G.D. Burdun, A.R. Vol'pert, I. Ye. Goron, L. I. Gutenmakher, I.I. Grodnev, N.D. Devyatkov, L.A. Zhekulin, S.I. Katayev, M.S. Neyman, V.I. Siforov and N.I. Chistyakov; Ed. of Publishing House: L.V. Gessen; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of reports is intended for scientists and technicians working in radio engineering and telecommunications.

COVERAGE: The reports included in this collection were submitted at the scientific meeting held in 1959 by the Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio

Card 1/7

Engineering and Telecommunication imeni A.S. Popov) in commemoration of the 100th anniversary of A.S. Popov's birth. Only 89 of the more than 300 reports submitted at the meeting are included. The remainder are published in the periodicals of the AS USSR, State Committees, the Ministry of Communications, and the Society imeni A.S. Popov. The book contains the reports read at plenary sessions by A.N. Shchukin, Academician, A.A. Pistol'kors, Corresponding Member, AS USSR, and N.I. Adirovich and L.I. Gutenmakher, Professors, as well as those selected as the most interesting given in the following sections by their respective chairmen: Theory of Information, Antenna Systems, Receiving Devices, Wire Communications, Television, Electronics, Radio Measurements, General Radio Engineering, Transmitting Devices, Radio Wave Propagation, Electron Microscopy, Radio Broadcasting, Electroacoustics and Sound Recording, Electronic Computer Engineering, and SHF Ferrite Devices. These chairmen were on the Editorial Board which prepared the papers for publication. References accompany most of the reports.

One Hundredth Anniversary (Cont.) SOV/5135

Card 5/7

S/194/61/000/006/073/077
D201/D302

9,2570

AUTHOR: Tager, A.S.

TITLE: Theory of parametric amplification and frequency changing in waveguide systems

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 19, abstract 6 K150 (V sb. "100 let so dnya rozhd. A.S. Popova", M., AN SSSR, 1960, 178-187)

TEXT: The analysis is given of amplification and of frequency changing in waveguide systems with periodically varying parameters. General expressions are derived for gain and noise factor for various ratios of frequencies and of propagation constants of amplifier signal to the pump signal. From the author's summary. [Abstracter's note: Complete translation]

1/3

Card 1/1

S/109/62/007/005/008/021
D266/D307

9.4230

AUTHORS: Vikulov, I.K., and Tager, A.S.

TITLE: Interaction of a two-velocity electron beam with the high frequency field of a delay line

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 5, 1962, 826 - 837

TEXT: The authors study theoretically the effect of a two velocity beam on the operation of travelling wave tubes and backward wave oscillators. The usual linear approach is adopted leading to

$$\frac{\partial^2 i_k}{\partial z^2} + 2j\beta_{ek}\frac{\partial i_k}{\partial z} - \beta_{ek}^2 i_k = \frac{j\omega\rho_{ok}e}{v_{ek}m}[E + E_\rho]. \qquad (1)$$

Here k refers to beam one or two, C - Pierce's gain parameter, $\beta_e = \omega/v_3$, ω - signal frequency, v_e - velocity of the electron beam, β_p - plasma wave number; Γ_o - propagation coefficient of the circuit wave

Card 1/3

Γ - propagation coefficient in the presence of the electron beam. Assuming that $C_1 = C_2 = C$, adopting Pierce's b (measuring here the deviation from the mean velocity of the beams) and d (loss) parameter, and introducing h with the relationship

$$h = \frac{v_{e2} - v_{e1}}{2C\, v_{e1}}$$

the real and imaginary parts of the propagation coefficient are calculated with the aid of an electronic computer. Satisfying the boundary conditions for a backward wave oscillator the authors come to the conclusion that only one oscillation frequency is possible when one of the slow space charge waves interacts with the circuit wave. As QC increases the starting current of the two-velocity beam increases and at QC = 1 the starting current is already twice as large as that needed in a single velocity beam. Therefore the authors conclude that the application of a two-velocity beam for the purpose of backward wave oscillations has no advantages. In forward wave operation the two-velocity beam leads to increased bandwidth. There are two regions of amplification; one of them centers around b = 0 and

the other around b = 2h. The dependence of gain on CN is plotted for b = 0. The magnitude of the gain strongly depends on QC. At QC = 1 and CN ≈ 0.5 the gain exceeds that obtained with the aid of a single-velocity beam. The authors note that the same technique can be used for calculating the properties of a double beam amplifier where no circuit is present. There are 7 figures, and 1 table.

SUBMITTED: September 26, 1961

ACCESSION NR: AP4043364 S/0181/64/006/008/2418/2427

AUTHOR: Tager, A. S.

TITLE: Current fluctuations in a semiconductor (dielectric) under conditions of impact ionization and cascade breakdown

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2418-2427

TOPIC TAGS: dielectric breakdown, cascade, spectral correlation function, probability, pn junction, random process

ABSTRACT: An approximate statistical analysis is made of impact ionization as a cascade process, and an attempt was made to determine the spectrum of high-frequency fluctuations of the cascade current in a planar layer of a semiconductor (dielectric). Such an analysis would permit, on the one hand, to obtain additional characteristics of the cascade, which could be verified experimentally, and on the other hand would provide an estimate of the noise properties of de-

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ACCESSION NR: AP4043364

vices based on the use of cascade breakdown. A planar layer of semiconductor or dielectric is considered, in which a strong homogeneous field produces impact ionization and multiplication of the resultant carriers (electrons and holes). The spectrum of the shot fluctuations of the carriers leaving this layer is calculated with allowance for the fluctuations of the multiplication coefficient. The suppression of the current fluctuations in a cascade diode by the space charge of the moving carriers is also considered. The use of this model makes it possible, in particular, to investigate the spectrum of current fluctuations flowing through a p-n junction under large negative bias and cascade breakdown. The probability distribution and the mean square of the fluctuation of the number of particles in the cascade is calculated. It is found that, owing to fluctuations of the multiplication coefficient, the probability distribution, the mean square and the variance of the number of carriers leaving the impact-ionization region differ greatly from the corresponding characteristics of a δ-correlated random process. The

ACCESSION NR: AP4043364

spectral density of the cascade-current fluctuations at low frequencies therefore exceeds the spectral density of the shot fluctuations and may reach appreciable values. The inertia of the cascade process, determined by the characteristic time, causes a decrease in the intensity of fluctuations proportional to the square of the frequency. The spectral density of the fluctuations of the cascade current varies with the temperature exponentially at low frequencies, but at very high frequencies the temperature variation should be negligible. Preliminary tests have shown agreement with the analytical conclusions. Orig. art. has: 2 figures and 35 formulas.

ASSOCIATION: None

SUBMITTED: 28Feb64 ENCL: 00

SUB CODE: SS NR REF SOV: 002 OTHER: 004

Card 3/3

ACC NR: AP6003554 SOURCE CODE: UR/0109/66/011/001/0051/0057

AUTHOR: Vikulov, I. K.; Ivanov, V. A.; Mnoyan, V. I.; Tager, A. S.

ORG: none

TITLE: Superregenerative backward-wave amplifier 25

SOURCE: Radiotekhnika i elektronika, v. 11, no. 1, 1966, 51-57

TOPIC TAGS: superregenerative amplifier, backward wave amplifier

ABSTRACT: In reference to the D. N. Thomson theoretical work (Proc. Nat. El. Conf., 1960, 16, 753-765) and to the R. Walter et al. experimental work in the millimeter band (Proc. IEEE, 1964, 52, 6, 711), the article presents the results of an experimental investigation of an O-type BW amplifier operated at 1—4 Mc under superregenerative conditions. Plots of amplifier gain vs. various parameters (including resonance-curve shapes) are shown. The amplifier frequency spectrum and noise factor were measured. These conclusions are offered: (1) The superregenerative BW amplifier gain is much (30 db) higher than that of the regenerative amplifier; (2) The superregenerator passband can be electrically controlled by varying the frequency and voltage of modulation, while the gain can be maintained constant; (3) The noise factor of the superregenerator is roughly equal to that of the regenerative amplifier. Orig. art. has: 9 figures and 1 table. [03]

SUB CODE: 09 / SUBM DATE: 11Sep64 / ORIG REF: 001 / OTH REF: 003

ATD PRESS: 4205

Card 1/1 UDC: 621.385.633.1

L 24241-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP6014613 SOURCE CODE: UR/0386/66/003/009/0369/0372

77
72
B

AUTHOR: Tager, A. S.

ORG: none

TITLE: Concerning one possible mechanism of instability of an electron plasma in a crystal

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 9, 1966, 369-372

TOPIC TAGS: electron plasma, semiconductor plasma, plasma oscillation, electric energy conversion, semiconductor carrier, carrier density

ABSTRACT: The author shows that a crystal with nonquadratic quasiparticle dispersion can possess the properties of an active element that transforms dc energy into microwave frequencies. The operation of such a device is based on the fact that a charged particle with nonquadratic dispersion behaves in a magnetic field like a nonisochronous oscillator whose frequency depends on its total energy. The necessary condition for the occurrence of a phase instability capable of exciting oscillations is that the momentum relaxation time of the charged particles be sufficiently long. This can be realized for pure semiconductors at sufficiently low temperatures. The most suitable for experimental study are semiconductors of the $A_{III}B_{V}$ type, such as InSb, at 60- 80K, when the electron relaxation time at a minimum impurity content ($\lesssim 10^{14}$ cm^{-3}) is maximal and amounts to 5×10^{-12} sec. It is proposed to carry out

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ACC NR: AP6014613

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the experiment in a semiconductor crystal in the form of a quasi-optical resonator, similar to that used in solid-state lasers. The upper limit of radiated power is estimated at approximately 10^{-23} J, which is lower than the energy at which intense scattering of electrons by optical phonons begins. The per unit radiated power is estimated at $\lesssim 10^2$ w/cm^3 and the dissipation power at $\lesssim 10^4$ w/cm^3. The frequency at which such resonance can occur lies in the submillimeter and infrared bands, and it is concluded that the mechanism for the instability of an electron plasma in a crystal can be used to develop converters for these bands. Orig. art. has: 5 formulas.

SUB CODE: 20/ SUBM DATE: 15Mar66/ ORIG REF: 002/ OTH REF: 001

Card 2/2 dda

ACC NR: AP6033468 SOURCE CODE: UR/0413/66/000/018/0054/0054

INVENTOR: Tager, A. S.; Mel'nikov, A. I.; Kobel'kov, G. P.; Tsebiyev, A. M.

ORG: None

TITLE: A method for generating and amplifying SHF oscillations using semiconductor diodes. Class 21, No. 185965

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 54

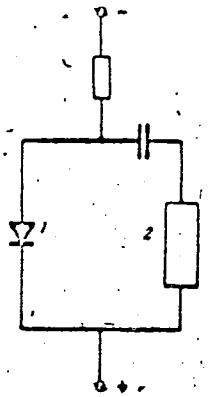
TOPIC TAGS: SHF oscillator, SHF amplifier, semiconductor diode, waveguide, resonator

ABSTRACT: This Author's Certificate introduces a method for generating and amplifying SHF oscillations using semiconductor diodes. Stable generation or amplification of oscillations in the centimeter and millimeter wavelength ranges is produced by placing the semiconductor diodes in a resonance or waveguide system, connecting them in a DC circuit and selecting their parameters and working points on the voltage-current curve in such a way that the resistance of the diodes on direct current and on frequencies below the working frequencies is positive while the resistance in the working frequency range is negative and greater than the resistance of losses in the diodes and in the high-frequency circuit.

UDC: 621.373.422

Card 1/2

ACC NR: AP6033468



1—diodes; 2—high-frequency circuit

SUB CODE: 09/ SUBM DATE: 27Oct59

Card 2/2

ACC NR: AP6036371

millimeter band oscillation on the order of a few mw; c) frequency multipliers based on an LPD externally synchronized by a subharmonic; d) regenerative amplifiers, e.g., a single-stage 3-cm LPD which has 20—25 db gain at a 50-mc bandwidth, and is linear for inputs down to 1 μv; e) stable white-noise generators covering the decimeter and centimeter bands, with effective noise temperatures in the 10^5—10^7K range. Advantages of the LPD over existing equivalents such as the klystron and the varactor are low cost, small size, simplicity, and high temperature stability. A disadvantage is the relatively high noise level, compared to that of a good klystron. The authors predict improvements in the efficiency and power output of LPD's which will make them dependable and useful microwave elements. Orig. art. has: 18 figures and 8 formulas.

SUB CODE: 09/ SUBM DATE: 26May66/ ORIG REF: 009/ OTH REF: 003/ ATD PRESS: 5106

Card 2/2

ACC NR: AP7012400 SOURCE CODE: UR/0053/66/090/004/0631/0666

AUTHOR: Tager, A. S.

ORG: none

TITLE: Avalanche-drift diode and its application in SHF engineering

SOURCE: Uspekhi fizicheskikh nauk, v. 90, no. 4, 1966, 631-666

TOPIC TAGS: avalanche diode, SHF, junction diode, reflex klystron, volt ampere characteristic, noise generator

SUB CODE: 09

ABSTRACT: In the introductory chapter of this article, the avalanche-drift diode LPD (lavinno-prolotnyi diod) is classified as a solid-state device which provides an equivalent to the reflex klystron tube for super-high-frequency application and which was first developed in the USSR in 1959.

The next chapter deals with the general class of diodes whose dynamic characteristics exhibit a negative resistance; the mechanism of field emission and the space-time pattern of electron motion are discussed. The LPD belongs to this class of devices, being basically a p-n junction variety.

UDC: 621.385.26 0932 1324

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The third chapter analyzes the static volt-ampere characteristic and the differential resistance in the region of avalanche breakdown. The concept of an "equivalent multiplication layer" is introduced and defined here as that region in which the full avalanche current is generated while the space charge is zero.

The fourth chapter deals with the SHF characteristics of the LPD device. First, the fundamental relations are established in the lower frequency range where the Maxwellian relaxation time and the free transport time of carriers are both negligible as compared to the period of oscillations and where, therefore, the multiplication process may be considered quasi-stationary. This model and the corresponding equivalent circuit serve then for a basis in determining the current-voltage and the resistance-reactance relations at higher frequencies. Such an analysis is carried out separately for the case of small signal amplitudes and for the case of large signal amplitudes.

The fifth chapter is devoted to evaluating the power output and the efficiency of an LPD type oscillator; both electron efficiency and overall efficiency are considered. The electron efficiency is, like the power, a function of the drift angle and its maximum value can become as high as 50% if the multiplication layer is sufficiently narrow. The overall efficiency, on the other hand, is proportional to the diode current and Q-factor but inversely proportional to its capacitance.

The [illegible] chapter deals with current fluctuations and noise in an LPD and an LPD type oscillator: the calculated noise coefficient for the centimeter wavelength range is 25-30 decibels, while the calculated signal/noise ratio (amplitudinal noise at frequencies within the passband of the oscillator circuit) is equal to 145-155 db/hz.

The following chapter, the seventh, presents the results of experimental studies concerning the LPD characteristics. Shown here and discussed are: 1) the resistive and reactive components of junction impedance as functions of current, 2) the linear increase of the characteristic current with frequency, 3) the total impedance of an LPD p-n junction as a decreasing function of the HF signal amplitude, 4) the spectral density distribution of current fluctuations, and 5) a correlation between tested and calculated values of LPD-oscillator power.

The eighth and last chapter of the article describes several operative devices based on and designed with an avalanche-drift diode. Among them are: 1) generators of coherent oscillations in the centimeter and millimeter wave ranges, usually provided with electrical means of tuning (through varying the diode current or through an auxiliary varactor diode) and which can be synchronized by an external signal supplied, e. g. quartz-crystal type multiplier circuit; 2) regenerative amplifiers, and 3) noise generators. The article concludes with an assessment of overall capabilities of avalanche-drift diodes: the germanium version has been the most promising so far, its merits over the silicon and gallium arsenide versions being the p-n junction homogeneity which

ACC NR: AP7012400

ensures a uniform distribution of breakdown and the high thermal conductivity (i.e. lower thermal resistance) as weighed against the lower forbidden energy gap. The bibliography includes twenty one USA sources.
Orig. art. has: 31 figures and 7 formulas. [JPRS: 40,353]

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SOURCE CODE: UR/0413/67/000/002/[illegible]

ACC NR: AP7006[illegible]-07

AUTHOR: Tager, A. S.; Khodnevich, A. D.

ORG: none

TITLE: Avalanche-transit oscillator. Class 21, No. 190429

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 47

TOPIC TAGS: uhf oscillator, sensor diode, ELECTRONIC COMPONENT

ABSTRACT: An Author Certificate has been issued for the avalanche-transit oscillator with mechanical tuning shown in Fig. 1. To increase output power and tuning range and also to reduce power drop in the tuning range, the movable resistive contact is removed from the resonator of the oscillator and ...

UDC: 621.373.1:621.382.2

Card 1/2

ACC NR: AP7005607

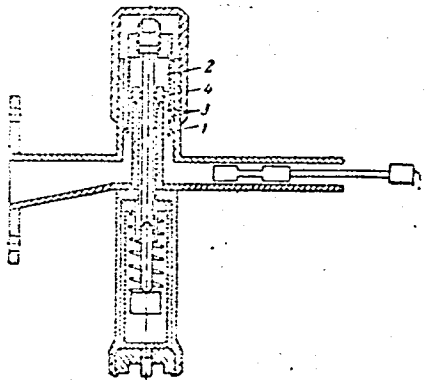

Fig. 1. Avalanche-transit oscillator

1 - Movable resistive contact; 2 - resonator; 3 - ring-shaped slots; 4 - fixed contactless plunger.

energy output occurs through ring-shaped slots in a fixed plunger. Orig. art. has: 1 figure. [WP]

SUB CODE: 09/ SUBM DATE: 10Dec63/ ATD PRESS: 5116

Card 2/2

TAGER, I.L.

Clinical significance of cholecystography. Ter. arkh., Moskva 25 no.2:85 Mar-Apr 1953. (CIML 24:3)

1. Professor.

TAGER, I.L., professor, (Moskva)

Roentgenologic procedure in suspected pulmonary cancer. Vest. rent. i rad. no.4:21-26 Jl-Ag '54. (MLRA 7:10)
(LUNGS, neoplasms, diag. x-ray)

TAGER, I.L., professor; PIPKO, A.S., dotsent

X-ray diagnosis of bursitis omentalis. Vest.rent. i rad. 31 no.2: 74-75 Mr-Ap '56. (MLRA 9:8)

1. Iz ordena Lenina bol'nitsy imeni S.P.Botkina (Glavnyy vrach prof. A.N.Shabanov)

(OMENTUM, diseases,
bursitis, x-ray diag. (Rus))
(BURSITIS,
omental, x-ray diag. (Rus))

SHASHLOV, Valentin Ivanovich; TAGER, I.L., obshchiy red.

[X rays] Rentgenovy luchi. Moskva, Medgiz, 1959. 130 p. (MIRA 13:3)

(X RAYS)

TAGER, Iosif L'vovich

[Mistakes and difficulties in the radioscopic diagnosis of stomach cancer] Oshibki i trudnosti v rentgenodiagnostike raka zheludka. Moskva, Medgiz, 1959. 168 p. (MIRA 13:7)

(Stomach--Cancer) (Diagnosis, Radioscopic)

TAGER, I.L. (Moskva, Vostochnaya ul., kop.2, kv.85); RABKIN, I.Kh.

Systematization of changes in the vessels of the lesser circulation in mitral stenosis; x-ray, clinical and morphological comparisons. Grud. khir. 2 no.4:19-26 Jl-Ag '60. (MIRA 15:6)

1. Iz tret'yey kafedry rentgenologii (zav. - prof. I.L. Tager) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina).

(MITRAL VALVE--DISEASES)
(PULMONARY CIRCULATION)

TAGER, I.L.; PEREL'MAN, V.M.

Precipitation pneumocystography in combination with the injection of gas into the perivesical cellular tissue and the abdominal cavity in the diagnosis of bladder tumors. Urologiia 25 no. 4:24-26 Jl-Ag '60. (MIRA 14:1)

(BLADDER—TUMORS)

TAGER, I.L., prof. (Moskva, ul. Kostyakova, d.8, kv.35); NIVINSKAYA, M.M., kand.med.nauk

Late metastases of breast cancer into the skeleton. Vest. rent. i rad. 35 no. 2:3-8 Mr-Ap '60. (MIRA 14:2)
(BREAST--CANCER) (BONES--CANCER)

TAGER, I.L., prof.; SHNEYDERIS, M.B., kand.med.nauk

Some interpretations of the roentgenological picture of the relief of the mucosa of the small intestine. Vest. rent. i rad. 35 no. 5:58-62 S-O '60. (MIRA 13:12)

1. Iz rentgenovskogo otdeleniya Moskovskoy klinicheskoy bol'nitsy No. 52 (glavnyy vrach P.S. Petrushko) i otdeleniya rentgenologii i radiologii (zav. - kandidat meditsinskikh nauk K.I. Ambrozaytis) Instituta onkologii Litovskoy SSR (dir. - kand.med. nauk A.I. Telichenas).

(INTESTINES--RADIOGRAPHY)

TAGER, I.L.; NOVOFASTOVSKAYA, L.R.

Dynamics of rigid antral gastritis. Khim. med. 38 no.5:101-109 My '60. (MIRA 13:12)
(GASTRITIS) (STOMACH--DISEASES)

MOLOKANOV, Konstantin Pavlovich; TAGER, I.L., red.; KASHEVSKAYA, A.M., red.; BUL'DYAYEV, N.A., tekhn. red.

[Roentgenology of occupational diseases and intoxications] Rentgenologiia professional'nykh zabolevanii i intoksikatsii. Moskva, Medgiz, 1961. 226 p. (MIRA 15:3)

1. Institut gigiyeny truda i profzabolevaniy Akademii meditsinskikh nauk SSSR (for Molokanov).
(OCCUPATIONAL DISEASES) (DIAGNOSIS, RADIOSCOPIC)
(INDUSTRIAL TOXICOLOGY)

TAGER, I.L.; LUPKO, A.A. (Moskva, D-80, V. Lok. Yamskoye shosse, d.1., kv.208.)

Cancer of the stomach and the esophagus, and hiatal hernia. Vop onk. 8 no. 10:78-83 '62. (MIRA 17:7)

TAGER, I.L., prof. (Moskva, A-8, ul.Kostyakova, D.8, kv.35);SHNEYDERIS, M.B., kand.med. nauk.

Adaptability of the motor function of the small intestine following gastric resection. Vest. rent. i rad. 38 no.1:20-24 JaF'63. (MIRA 16:10)

1. Iz rentgenovskogo otdeleniya Moskovskoy 52-y klinicheskoy bol'nitsy (glavnyy vrach P.S.Petrushko) i otdeleniya rentgenologii i radiologii (zav. - kand.med.nauk K.I. Ambrozaytis) Instituta onkologii Litovskoy SSR (dir. - kand.med.nauk A.I. Telichenas).

*

MALYSHEVA, O.A.; TAGER, I.L., prof.

Use of cineroentgenography for studying the function of esophagointestinal and esophagogastric anastomoses. Vestn. rentgen. i radiol. 38 no.4:29-32 Jl-Ag'63 (MIRA 17:2)

1. Iz rentgeno-radiologicheskogo otdela (zav. - zasluzhennyy deyatel' nauki prof. I.L.Tager) Instituta eksperimental'noy i klinicheskoy onkologii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N.Blokhin) AMN SSSR.

TAGER, I.L., prof.

Review of the book by I.Brokher "Diseases of the spine and their differential diagnosis". Vestn. rentgen. i radiol. 38 no.4:84 Jl-Ag'63 (MIRA 17:2)

NIVINSKAYA, M.M.; TAGER, I.L.; PRESMAN, I.I.

Clinical X-ray characteristics of metastatic melanomas of bones. Vest. rent. i rad. 38 no.6:3-8 N-D '63. (MIRA 17:6)

1. Iz rentgeno-radiologicheskogo otdela (zav.- zasluzhennyy deyatel' nauki prof. I.L.Tager) Instituta eksperimental'noy i klinicheskoy onkologii (direktor - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin) AMN SSSR i khirurgicheskogo otdeleniya (nachal'nik I.I. Presman) TSentral'noy klinicheskoy rentgeno-radiologicheskoy bol'nitsy (nachal'nik A.I. Yur'yev) Ministerstva puteY soobshcheniya.

TYGER, I.I.; [illegible], M.M.

Some characteristics of the course of breast cancer metastasis into the skeleton under the influence of combined radiotherapy and hormone therapy. Med. rad. 9 no.1:12-19 Ja '64. (MIRA 17:9)

1. Sektsiya radiologicheskiy otdel (zav. - zasluzhennyy deyatel' nauki prof. I.I.Tyger) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR.

TAGER, A.I.; FEIGMAN, Ye.G.

Difficulties and errors in the X-ray diagnosis of cancer of the resected stomach. Vest. rent. i rad. 39 no.5:23-28 S-O '64. (MIRA 18:2)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

TAGER, I.L.

New methods in roentgenology. Vest. AMN SSSR 19 no.2:92-95 '64.
(MIRA 18:1)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

TAGER, I.L., prof.; MERKULOVA, N.V.; TSESHKOVSKIY, M.S.

Nature of reparative processes in the bones of patients with myeloma treated with sarcolysine. Vest. rent. i rad. 40 no.2:13-17 Mr-Ap '65. (MIRA 18:6)

1. Rentgeno-radiologicheskiy otdel (zav.- prof. I.L. Tager), otdeleniye khimioterapii (zav.- doktor med. nauk V.I. Astrakhan) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva.

TAGER, I.L., zasluzhennyy deyatel' nauki, prof. (Moskva A-4[illegible] .Kozyakovs. d.8, kv.35); MAZO, I.S.

New data on vertebral dislocations in the light of a functional X-ray study. Ortop., travm. i protez. 26 no.4:59-62 Ap '65. (MIRA 18:8)

1. Iz rentgeno-radiologicheskogo otdela (zav. - prof. I.L. Tager) Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Blokhin) i rentgenologicheskogo otdeleniya [illegible] gorodskoy klinicheskoy bol'nitsy Voronezha (glavnyy vrach - V.M. Sladkopevtsev).

S/194/61/000/008/092/092
D201/D304

AUTHOR: Tager, N.P.

TITLE: Special features of electron tubes for condenser microphones

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 59, abstract 8 K505 (Tr. Vses. n.-i. kinofotoin-ta, 1960, no. 34, 110-117)

TEXT: The most important parameters of tubes for condenser microphones are as follows: grid current, the shape of the grid current characteristic, resistance of the grid modulation, tube noise level, stability and life-time. As is known, the noise voltage, starting from a certain value, decreases with the increase of the grid leak resistor R_g. This increase is, however, limited by the properties of the electron tube. By choosing individually the tubes a tube may be found which would be most suitable for a resistance-transformer amplifier is the tube 606 Б (606 B) and for a

Card 1/2

S/194/61/000/008/092/092
D201/D304

Special features...

cathode follower tube 6Ж1П-Е (6Zh1P-E). It would be advisable, however, to develop a special tube which could be based on 6Zh1P-E. Requirements are listed for such a special tube. 4 figures. 1 table. 3 references. [Abstracter's note: Complete translation]

Card 2/2

[illegible], [illegible]. [illegible]

Industrial noise in stone crushing plants. Vest. TSNII MPS 23 no.7:53-55 '64. (MIRA 18:3)

Rapid determination of vanadium in steel. R. Tager. *Zavodskaya Lab.* 3, 369(1934).—The method described consists in oxidizing VO_3^{++} to HVO_3 with $KMnO_4$ at 72° in a soln. contg. H_3PO_4 + H_2SO_4, adding $H_2C_2O_4 \cdot 2H_2O$ to remove excess MnO_4^-, cooling, adding KI and titrating the I_2 formed by reducing HVO_3, back to VO_3^{++} with $Na_2S_2O_3$.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Name: TAGER, P.G.
Title: professor

Author of book, "The Kerr Cell". This work is a report on the theory of modulated light for sound pictures and television, with the aid of the Kerr effect.

Director of TELEKINO (Television-Moving Pictures) Laboratory of the NIKFI (Scientific Research Moving Picture Photography Institute), Palace of the Soviets. The laboratory at the present time concerns itself with the following aspects: sound recording, newsreel filming, film processing, and developing of large television screens. In 1937 this laboratory perfected a multi-cellular screen with 1,200 elements.

REF: R. F. #11, p.66, 1938
REF: R. F. #19, p.18, 1938

TAGER, P. G.

"New Laboratory of Television Methods,"

Iz. Ak. Nauk SSSR, Otdel. Tekh. Nauk, No. 10, 1940

[redacted] Report U-1530, 25 Oct. 1951

TAGER, P. G.

"Physical Phenomena in a Medium Through Which Supersonic Waves and Light Pass," Zhur. Tekh. Fiz., 15, pp 318-36, 1945

"Effect of the Pressure Within a Liquid on Its Refraction Index and Dispersion," Zhur. Tekh. Fiz., 15, pp 337-47, 1945

Chem. Abs. Vol. 40, No 10, 20 May 46

TAGER, P.G.

Tager, P.G. "Special aspects of phonograms," report 77, Trudy NIKFI (Nauch.-issled. kino-foto-in-t), Issue 7, 1947, (column title: 1944), p. 148-52

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

TAGER, P.G.

Special types of sound tracks. Trudy NIKFI no.7:148-152 '47.
(Sound--Recording and reproducing) (MIRA 11:6)
(Motion-picture projection--Equipment and supplies)

TAGER, P. G. PA 22T45

USSR/Engineering Jan 1947
Recorders, Automatic
Counters

"An Automatic Counting and Recording Device," P. G. Tager, 8 pp

"Avtomat i Telemekh" Vol VIII, No 1

A well-illustrated article giving a short description of a recording apparatus which will record all phases of work of an apparatus under investigation. It is able to operate on as many as 20 individual machines at the same time. It was developed at the Institute of Automatic Machinery and Telemechanics of the Academy of Sciences of the USSR. Assistance was given by I. D. Andreyev and D. V. Zernov. 22T45

TAGER, P. G.

Tager, P. G. The frequency spectrum in phase-pulse modulation. Avtomatika i Telemehanika 8, 117–135 (1947). (Russian)

Pulse-phase modulation is a modulation scheme in which a signal $F(t)$ is translated into a sequence of impulses. The signal $F(t)$ is sampled at a definite rate, say P times per second, and the nth sample value $F(nP)$ determines the time t_n of arrival of the nth impulse by means of $t_n = nP + cF(nP)$, where c is a constant. The particular signal with which the paper deals is $F(t) = A + B \sin(\omega t + \beta)$. A Fourier analysis is performed on the pulse-phase modulated version of $F(t)$ assuming the impulses to be of rectangular shape.

E. N. Gilbert (Murray Hill, N. J.).

Source: Mathematical Reviews, Vol 11 No. 10

PA 13/49T26

USSR/Electronics Jul/Aug 48
Modulation, Pulse

"Spectrum in Asymmetric Pulse Modulations," P. G. Tager, Inst of Automatics and Telemech, Acad Sci USSR, 12½ pp

"Avtomatika i Telemekh" Vol IX, No 4

Examine phase and amplitude of frequency spectra obtained under steady operation during pulse modulation. Position of each pulse boundary (beginning and end) is determined by various functions of the instantaneous value of the modulating voltage. Examples show that formulas defining the spectra in phase-pulse, time-pulse and other methods can [redacted]

13/49T26

USSR/Electronics (Contd) Jul/Aug 48

readily be deduced as particular cases of a general formula for nonsymmetrical pulse modulation. Submitted 1 Oct 1947.

[redacted]

13/49T26

TAGER, P. G.

PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

STREL, Vol. 4, No. 6

Automatics & Telemechanics

Tager, P.G. (Institute of Automatics & Telemechanics, U.S.S.R. Academy of Sciences), Contemporary methods of sound recording on movie films, 1680-94.

Izvestiya Akademii Nauk, S.S.S.R., Otdelenie Tekhnicheskikh Nauk, 1950, No. 11 (November)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

Acoustics and Audio Frequencies

621.395.625.6 **1838**

Electron-Optical Sound-Recording Device. P. G. Lager. C. R. Acad. Sci. U.R.S.S. 21st Aug. 1950. Vol. 73, No. 6, pp. 1181–1183. In Russian. An arrangement of two c.r. tubes with r. deflections synchronized at a frequency much higher than the highest a.f. One tube has also a y deflection system controlled by microphone currents and has a modulation controlling mask of some desired pattern interposed in front of a signal plate. Film is traversed in the x direction past the fluorescent screen of the second tube, whose beam is switched on or off according as current is or is not flowing in the signal plate circuit as controlled by the mask.

ASTSLA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Electronics - Sound Recording Jul 51

"Line Recording of an Intensive Phonogram and Its Reproduction," P. G. Tager, All-Union Res Cinephoto Inst, Ministry of Cinematography USSR

"Zhur Tekh Fiz" Vol XXI, No 7, pp 753-765

Studies reproduction of intensive phonogram, scanned linearly by cathode-ray tube in case of rectilinear sweep by cathode-ray of saw-toothed pulsating generator, modulated by amplified microphonic current. Demonstrates that in described case linear distortions are absent. But distortions reappear during

LC 189T42

USSR/Electronics - Sound Recording Jul 51
(Contd)

reproduction, depending on setting of instruments. Gives suggestions to avoid distortions. Submitted 26 Oct 50.

LC 189T42

TAGER, P. G., PROF

Feb 52

USSR/Physics - Acoustics

"Stereophonic Sound," A. I. Parfent'yev, Cand Tech Sci and Stalin Prize Winner

Priroda, No 2, pp 17-19

States that stereophonic transmission of music was first successfully studied in Russia by Prof I. Ye Goron, Prof P. G. Tager, and Engineers B. N. Konoplev and M. Z. Vysotskiy.

263T107

[illegible], P. S.

"Photographic Recording of Electric Processes," Uspekhi Nauch. Fotografii, 2, pp 179-192, 1954

Modulators of light, i.e., instruments modifying the intensity and direction of light flux, visible, ultraviolet and infrared are described. Most attention is devoted to electric and magnetic modulators. (RZhFi., No 6, 1955)

Sum. No. [illegible], 7 Oct 55

TAGER, P. G.

USSR/ Electronics - Television

Card 1/1 Pub. 77 - 20/20

Authors : Tager, P. G., Dr. Tech. Sci.

Title : Present and future television

Periodical : Nauka i zhizn' 21/12, 44-45, Dec 1954

Abstract : A book entitled, "Television", by K. Kladkov is reviewed. The book recounts the development of television and stresses the role played by Soviet scientists, besides speculating about the future of television. However, in its technical parts the book contains some untrue statements, such as that a spark between electrodes can be better produced in a vacuum. Illustration.

Institution: ...

Submitted : ...

SAKHAROV, A.A. [translator]; TAGER, P.G., red.; MAYKOVA, Ye.I., red.; GERASIMOVA, Ye.S., tekhn.red.

[High-speed cinematography in science and technology; collection of articles; translated from the English and French] Vysokoskorstnaia kinofotos"emka v nauke i tekhnike; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1955. 494 p. (MIRA 11:6)
(Cinematography)

TAGER-P.G.

534.862.3/.4 : 534.7

4962. THE SECONDARY FIELD DURING STEREOPHONIC TWO-CHANNEL TRANSMISSION AND CERTAIN FIXED ARRANGEMENTS OF THE SOURCE OF SOUND IN THE PRIMARY FIELD. P.G.Tager.

Akust. Zh., Vol. 1, ~~No. 3, 285-93~~ (1955). In Russian.

The article is a theoretical investigation devoted to the study of the two most important parameters of the secondary sound field which affect the stereophonic effect, viz. difference of energy levels from the two loud speakers perceptible to the hearer, and the perception of a time lag between the signals from these loud speakers. C.R.S.Manders

5

Tager, P.G.

USSR/ Miscellaneous - Cinematography

Card 1/1 Pub. 86 - 4/38

Authors : Tager, P. G., Prof.

Title : New direction in moving-picture technology

Periodical : Priroda 44/7, 33 - 42, Jul 1955

Abstract : A review is made of scientific researches aiming to develop methods for faithful reproduction of natural effects of sight and sound in moving picture technology. These cover a wide range of subjects including magnetic recording, acoustics, and stereophonics, the latter being discussed in considerable detail. The techniques related to sight effects involving the use of broad screens, etc. are also discussed. One USSR reference (1953). Illustrations; tables; diagrams.

Institution : .....

Submitted : .....

PARFENT'YEV, A.I.; DEMIKHOVSKIY, L.A.; MATVEYENKO, A.S.; TAGER, P.G., professor, redaktor; SOVETOV, S.S., redaktor; MATISSEN, Z.M., tekhnicheskiy redaktor

[Sound recording in the staging of theatricals] Zvukozapis' v oformlenii spektaklia. Pod red. P.G.Tagera. Moskva, Gos. izd-vo "Iskusstvo," 1956. 142 p. (MLRA 9:7)
(Sound--Recording and reproducing)

TAGER, P. G.

Pulse Method of Amplifying Electrical Signals. Patent, Class $21a^2$, 18_{08}. No. 103677, Elektrosvyaz' No. 1, Jan 57.

PARFENT'YEV, Andrey Ivanovich, kandidat tekhnicheskikh nauk; TAGER, P.G., zasluzhennyy deyatel' nauki i tekhniki RSFSR, doktor tekhnicheskikh nauk, professor, redaktor; KADER, Ya.M., redaktor izdatel'stva; MEZHERITSKAYA, N.P., tekhnicheskiy redaktor

[Sound recording] Zapis' zvuka. Izd. 2-oe, dop. Moskva, Voen. izd-vo M-va obor. SSSR, 1957. 137 p. (MLRA 10:8)
(Sound--Recording and reproducing)

SOV/112-58-2-3202

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 220 (USSR)

AUTHOR: Tager, P. G., Tel'nov, N. I., Khinchik, T. A., and Blazhenkov, V. A.

TITLE: An Outfit for Recording TV Programs on Movie Film (Ustanovka dlya zapisi televizionnykh programm na kinoplenku)

PERIODICAL: Tekhnika kino i televideniya, 1957, Nr 3, pp 34-40

ABSTRACT: The difficulty in recording TV programs from a kinescope screen on movie film is indicated, as well as possible ways of solving the problem. Apparatus is described that was developed and built at NIKFI. The apparatus is based on an afterglow picture tube which, while the obturator is open, allows photographing both fields: the one being scanned on the kinescope screen, and the preceding one, still retained because of the afterglow effect. To secure equal exposure for all picture elements, special brightening pulses of a complicated shape are fed to the kinescope in addition to the video signals. Illustrations: 7. Bibliography: 4 items.

Ya.I.E.

Card 1/1

TAGER, P.G.

Stereophonic effect in two-channel transmission. Trudy NIKFI no.12: 67-110 '57. (MIRA 11:5)

(Sound—Recording and reproducing)

TAGER, P.G., professor.

Magnetic recording of images. Priroda 46 no.5:78-81 My '57. (MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut Ministerstva kul'tury SSSR (Moskva).
(Magnetic recorders and recording)
(Television--Transmitters and transmission)

TAGER, P.G.

Magnetic recording of moving images. Tekh. kino i telev. no. 8:62-74 Ag '58. (MIRA 11:8)

(Television broadcasting)
(Magnetic recorders and recording)

SOV/109-3-7-7/23

AUTHOR: Tager, P. G.

TITLE: Pulse-Type Amplification of Electrical Signals (Impul'snoye usileniye elektricheskikh signalov)

PERIODICAL: Radiotekhnika i elektronika, 1958, Vol 3, Nr 7, pp 918-927 (USSR)

ABSTRACT: The principle of the amplification is based on the schematic of Fig.1, in which M' and M" denote the two halves of a trigger circuit (a bi-stable device) and P_r is a special pulse generator. The input signal is applied to the terminals B of the system. The waveform produced by the pulse generator consists of a fast short rectangular pulse and a long linearly decaying portion (see Fig.2). This waveform is also applied to the input of the system. If the input signal is sinusoidal and its frequency is considerably lower than the repetition frequency of the pulse waveform (see Fig.2), the current pulses of one of the tubes of the trigger are modulated; this modulation is in the form of one-sided pulse width variation (see Fig.3).

Card 1/4

Pulse-Type Amplification of Electrical Signals

The spectrum of the resultant output signal can be expressed by Eq.(1), where r, u, v and w are integers, P is the repetition frequency of the modulating pulses, ε is the frequency of the input signal, while the remaining parameters are defined by Fig.4 which shows the position of the edges (front edge d and trailing edge h) in non-modulated and modulated pulses. If the load on the trigger has a rectangular amplitude characteristic, having a cut-off frequency ε_m , the output signal can be expressed by Eq.(2) and its first harmonic by Eq.(4), where J_w is the Bessel function of the w order. The distortion coefficient k_2 , which is equal to the ratio of the second harmonic and the fundamental is expressed by Eq.(5). If the system fulfils the conditions defined by Eqs.(6) to (12), k_2 is expressed by Eq.(13), or approximately by Eq.(14). From the above results, in particular, Eq.(13), it is seen that the frequency characteristic of the system is practically linear over the whole frequency range from 0 to ε_m. The amplification method was also investigated experimentally by employing the circuit shown in Fig.5, where Φ is

SOV/109-3-7-7/23

Pulse-Type Amplification of Electrical Signals

a filter with a cut-off frequency of 200 cps and P_r is a generator producing pulses of a type shown in Fig.6 and having a repetition frequency of 500 cps. The output signal was taken from across $R_1 = 600\Omega$. By employing this amplifier it was possible to obtain equivalent dynamic slopes ranging from 20 to 180 mA/V. The paper contains 8 figures and 4 Soviet references.
(Note: After the submission of this paper to the editor of the journal, an article dealing with a similar problem appeared in the journal, "Radiotekhnika", 1956, Vol II, Nr 10, p 38; the article was by V. V. Malanov and was

Card 3/4

SOV/109-3-7-7/23

Pulse-Type Amplification of Electrical Signals

entitled "Pulse method of amplifying audio frequencies").

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kino-foto-institut Ministerstva kul'tury SSSR (All Union Scientific Research Cine-Photo-Institute of the Ministry of Culture of the USSR)

SUBMITTED: June 11, 1956.

1. Pulse generators--Performance 2. Radio signals--Control
3. Electric circuits--Performance 4. Mathematics

Card 4/4

6.6000

S/106/62/000/008/005/009
A055/A101

AUTHOR: Tager, P.G.

TITLE: Transverse recording of video-signals on a magnetic tape

PERIODICAL: Elektrosvyaz', vol. 16 no. 8, 1962, 41 - 49

TEXT: This article is a theoretical analysis of the factors determining the position of the elements of video-recording on the transverse bands of the magnetic tape. In Figure 1, P stands for the magnetic adhesion, which is considered as a circle with its center in O_P. The center of the disk of magnetic heads is in O_G; the heads move along the circumference G. The X-axis passes through O_P and the middle F_0 of the adhesion. The distance e represents the eccentricity, determined by: $e + r = R + p$ (2). The positive direction of the Z-axis coincides with the direction of the movement of the tape. In his analysis, the author considers first the lower half of the width of the tape, shown in Figure 1. The time is counted from the moment when the examined head is on the X-axis. Then, $\beta = \omega t$, ω being the angular velocity of the disk. Since

Card 1/3

$$\varphi = \omega t + \frac{y_F - x_F \operatorname{tg} \omega t}{x_F + y_F \operatorname{tg} \omega t}, \tag{4}$$

the element of the video-signal recording made at the moment t will be situated, on the tape, at a distance D from point F_0:

$$D = \omega R t + \frac{y_F - x_F \operatorname{tg} \omega t}{x_F + y_F \operatorname{tg} \omega t}. \tag{5}$$

If Q is the rated number of frames of the television system, transmitted in one second, and q is the rated number of the lines per frame, the recording of the element N, situated on the line n of the television image band, will occur at the moment:

$$t_{n;\,N} = \frac{(n-1)\,k\,q + N}{k\,q^2\,Q}, \tag{6}$$

where k is the "aspect ratio coefficient". The recording position F of this element is determined by (5). The author analyzes next the recording in the upper half of the magnetic tape band and deduces some analogous formulae. The shift

TAGER, P.G.

Reproduction of video signals recorded by a transverse track technique on magnetic tape. Elektrosviaz' 16 no.11:30-37 N '62. (MIRA 15:11)

(Video tape recorders and recording)

LAZAREV, Vladimir Ivanovich; PARKHOMENKO, Vladimir Ivanovich; TAGER, P.G., red.; BUL'DYAYEV, N.A., tekhn. red.

[Magnetic recording of television images] Magnitnaia zapis' televizionnykh izobrazhenii. Moskva, Gosenergoizdat, 1963. 86 p. (Massovaia radiobiblioteka, no.462) (MIRA 16:5)
(Video tape recorders and recording)

L 19574-65 ASD(a)-5/ASD(f)-3/ESD(gs)

ACCESSION NR: AP5002065 S/0046/63/009/001/0076/0079

B

AUTHOR: Tager, P. G.

TITLE: Reconstruction of the physical picture on the symmetry axis of a two-channel in-phase sterephonic system

SOURCE: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 76-79

TOPIC TAGS: acoustic field, stereophonic reproduction, sound field distribution, sound reproduction system

ABSTRACT: The purpose of the research was to obtain further data on the acoustic field distribution on the symmetry axis of two coherently radiating loudspeakers. Theoretical calculations show that the displacements of a material particle on the symmetry axis, due to the two speakers, are the same as would be produced by a single speaker located on the line joining the two speakers, and that the distance between this hypothetical single speaker and the real speakers does not depend on either the sound frequency or the position of the measurement point on the symmetry axis. The position of the apparent source is likewise independent on the loudness, but depends on the distance between the two speakers and on the

Card 1/2

L 19574-65
ACCESSION NR: AP5002065

ratio of the energies radiated by the two speakers. The results of the calucla-tions are in good agreement with subjective tests made by V. L. Jordan (Acustica, 1954, v. 4, no. 1, 36-38) in which different persons identified the apparent source of sound emitted by two in-phase speakers with different energy outputs. Orig. art. has: 3 figures and 14 formulas.

ASSOCIATION: Vsesoyuzny*y n.-i. kino-fofoinstitut, Moscow (All-Union Scientific-Research Institute of Motion Picture Photography)

SUBMITTED: 23Apr62 ENCL: 00

SUB CODE: GP NR REF SOV: 000 OTHER: 003

Card 2/2

TAGER, F.G.

Distortions resulting during the conversion of a two-channel stereophonic broadcast to single channel transmission. Radiotekhnika 18 no.8:41-48 Ag '63. (MIRA 16:10)

TAGER, E.G.

Exposure of the photographic layer during the recording of television images with a motion-picture camera with rapid film pull-down. Zhur. nauch. i prikl. fot. i kin. 9 no.5: 368-378 S-O '64. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

[illegible]

Combining the time of film [illegible]
in recording television images. [illegible]
10 no.11:294-296 Jl-Ag '65. [illegible]

1. Vsesoyuznyy nauchno-issledovatel'skiy [illegible]

TAGER, P.G.

Ideal and actual stereophonic systems. Radiotekhnika. 20 no.6:35-40 Je '65. (MIRA 18:7)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754710018-7"

Oct 1947

USSR/Engineering
Boilers
Coal

"Thermal Work of Boiler Units in Burning Pulverized High Ash Lignite Coal," Yu. L. Marchak, V. P. Romadin, S. A. Tager, Candidates in Technical Sciences, Heating Laboratory, 7 pp

"Iz VTI" No 10

An analysis of the thermal work of a boiler unit supplied by a spherical tumbling barrel in burning pulverized high-ash lignite coal, on the basis of experimental data.

PA 29738

1330. OPERATION OF COMBUSTION CHAMBER WITH ROTARY STOKERS.
Tager, S. A. (Za Ekonomiyu Toplica (Fuel Econ.), 1949, (9), 5-9).

Test report on a recent Soviet design working with a transportable 5 tons/hr water-tube boiler. (L).

F

4720. DESIGN OF MECHANICALLY STOKED FURNACES FOR LOW OUTPUTS. Tager, SA. and Roddatis, KE. (Za Ekon. Topliva (Fuel Econ.) Aug. 1950, 1-8). Relations between boiler capacities (in the 2-10 tons/ hour range), types of solid fuel, grate and stoking arrangements, shape of furnace, etc., are discussed.

(L)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

C. A.

21

Changing the grading of Donets anthracites S. A. Takes. *Za. Ekon. Teplina* 8, No. 5, 15-17 1951. The present size grading of Donets anthracite is based on antiquated methods of consumption. New methods of coal utilization require a revised table of size classes and, with this in view, one is proposed.

M. Hosch

TAGER, S. A.

Stokers, Mechanical

Comments on I. A. IAvorskii's artilce "The pneumatic soring of ordinary types of coal used in chain grate stokers". Za ekon. top., 9, no. 1, 1952.

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

TAGER, S.A.

Gas baffles in VVD-80 boilers. Energetik 1 no.3:34-35 Ag '53.
(MLRA 6:8)
(Steam boilers)

[illegible], D. A.

Joint Publications

[illegible] Bi [illegible] 21 [illegible], [illegible] energy, [illegible], No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TAGER, S.A., kandidat tekhnicheskikh nauk; SMIRNOV, A.S., inzhener.

Improved plane sliding coal gate. Energetik 2 no.6:13-14 Je '54.
(Coal--Storage) (MLRA 7:7)

ATD P - 2333

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 14/17

Authors : Tager, S. A., Kand. of Tech. Sci. and V. N. Yurkevich, Eng.

Title : Graphical determination of carbon monoxide, coefficient of excess of air and losses from incomplete chemical combustion according to data of technical gas analysis

Periodical : Teploenergetika, 5, 59-61, My 1955

Abstract : A mathematical analysis of tests made in boilers and furnaces for data on combustion, air supply and density of gas. A graph determining the amount of carbon monoxide is presented. Another graph shows losses occurring from incomplete combustion. Characteristics of different types of coal are given.

Institution : Administration of "Power Equipment" Installation

Submitted : No date

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BENESHEVICH, I.I. (continued) Card 2.

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TITLE: Thermal characteristics of volatile substances. (Teplovye kharakteristiki letuchikh veshchestv.)

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ABSTRACT: The accepted procedure for the evaluation of the volatiles content of fuels provides only for the weight of volatiles produced on heating a milled suspension of the fuel to a temperature of 850 °C for 7 minutes in an oxygen free medium. The volatiles content is expressed as a percentage and is usually related to 1 kilogram of the hot fuel mass. Much higher temperatures than 850 °C are met in furnaces. Investigations on high temperature formation of volatiles show that they cease to separate at temperatures of 1 100° - 1 200° C and the quantity of volatiles separated in the temperature range 850 - 1 200 °C is relatively small. The author has derived an approximate formula for calculating the total output of volatiles given the quantity of volatiles produced using the standard procedure. However, even this

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procedure only gives the volatiles content by weight but it is very important to know their thermal characteristics including their calorific value and the distribution of the calorific value of the fuel between the volatiles and the coke.

Separate evaluation of the calorific values of the solid and volatile components makes it possible to estimate quantitatively a number of important furnace processes. The subject is first considered theoretically and equations are derived for the coefficient of volatilisation, the calorific value of the volatile related to one kilogram of hot fuel, and also to one kilogram of volatiles, and also the proportion of the calorific value of the fuel that is due to the volatiles. Typical values of these properties for the main types of solid fuel used in the USSR are tabulated. The changes in these magnitudes as functions of the volume of volatiles for solid fuel of humus origin (i.e. excluding shales) is given in Fig. 1. The relationships between each of these characteristics

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and the volatiles content is represented by two curves, the first of which corresponds to anthracite and hard coal and the second to brown coal, peat and timber. The first of these curves is always, as it were, a continuation of the other. Over the volatiles region of 30-50% all the thermal characteristics for the volatiles of hard coals are considerably higher than the corresponding characteristics for brown coals. The calorific value of the volatiles increases smoothly from about 400 kcal/kg for timber and 4 300 kcal/kg for peat to 5 000 - 6 000 kcal/kg for brown coals. The curves then undergo a discontinuity. There is a maximum in the region of 10-12% volatiles. The curves show that well-known practical difficulties in burning volatiles of anthracite are associated not only with the low output of volatiles but also with some reduction in their calorific value. Curves showing the relationship between the content of oxygen, carbon and hydrogen in the solid mass of fuel of humus origin and its calorific value as function of the volatiles content are

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