TROFIMENKO, A.T.

10(2)

PHASE I BOOK EXPLOITATION   SOV/4271

Soveshchaniye po prikladnoy dinamike. Alma-Ata, 1956

Trudy (Transactions of the Conference on Applied Gas Dynamics) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1959. 235 p. Errata slip inserted.

Sponsoring Agency: Kazakhskiy gosudarstvennyy universitet imeni S.M. Kirova.

Ed.: V.V. Aleksandriyskiy, Tech. Ed.: Z.P. Rorokina; Editorial Board: L.A. Vulis (Resp. Ed.), V.P. Kashkarov, T.P. Leont'yeva, and B.P. Ustimenko.

PURPOSE: This book should be of interest to scientists and engineers working on problems of applied gas dynamics and may be of use to students.

COVERAGE: This book presents reports and brief summaries of the discussions which took place at the Conference on Applied Gas Dynamics in Alma-Ata in October 1956. The conference was subdivided into three areas of applied gas dynamics: jet flows of fluids and gases, the aerodynamics of heating processes, and the discharge of a fluid. The practical value of the "Transactions of the Conference" consists in the development of theory, methods of technical calculation and methods for systematic measurement applied to heating, furnace, and other industrial processes for which, in most cases, aerodynamic phenomena are decisive factors.

AUBAKIROVA, V. R.; TROFIMENKO, A. T.

Study of the motion of a nonisothermal jet moving along a
hard surface. Izv. AN Kazakh. SSR. Ser. energ. no.2:55-62
'62.   (MIRA 16:1)

(Fluid dynamics)

TROFIMENKO, B., starshina sverkhsrochnoy sluzhby

Having stepped over the threshold of the barracks. Starsh.-serzh
no.11:14-15 O[i.e. N] '61.   (MIRA 15:2)
                          (Military education)

TROFIMENKO, B. S.

TROFIMENKO, B. S. -- "Chemicotechnological Study of Fruits and Berries of the Forest-Steppe of the Ukraine." Moscow Order of Lenin Agricultural Acad imeni K. A. Timiryazev, Moscow, 1955 (Dissertation For the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

621.316.1.051.24 : 621.3.014.1

3786. Determination of the current distribution in a ring main. D. E. Tkomenko, Ekktrichestvo (No. 6) 6-12 (June, 1950) In Russian.

The usual methods do not enable the current distribution to be determined directly. The methods suggested are intended for ring mains containing transformers with differing transformation ratios and auto-transformers for voltage regulation. The first method, an analytical one, uses a complex representation of the transformation ratios, in which the phase relations between primary and secondary can be considered without complicating the system of equations determining the current distribution. The losses in the system can also be found from the same equations. In the simpler case where the transformers have equal transformation ratios, the resulting relations have the form corresponding to a main fed at either end. An alternative graphical method is also given and an example added with full calculation.   B. F. KRAUS

DOCENT D. Ye. Trofimenko

USSR/Electricity - Systems, Power   Jun 51
                    Regulation, Voltage

"An Analytical Method of Determining the
Static Power Limit in a Two-Machine Sys-
tem," Docent D. Ye. Trofimenko, Cand Tech
Sci, Ural Polytech Inst imeni Kirov

"Elektrichestvo" No 6, pp 12-15

Gives new method of detg the static power
limit in a 2-machine system without resort-
ing to consecutive approximations. Sub-
mitted 20 Feb 51

200T9

YE TROFIMENKO, DOCENT D.   232T57

USSR/Electricity - Power Systems   Sep 52
                    Stability

"Method of Calculating the Permissible Duration
of a Short-Circuit in a Two-Machine System,"
Docent D. Ye Trofimenko, Cand Tech Sci, Ural
Polytech Inst imeni Kirov

"Elektrichestvo" No 9, pp 61-67

Gives a method which permits one to find the
approx permissible duration of emergency oper-
ating conditions from the generalized para-
meters of a system consisting of 2 stations.
Submitted 28 May 51.
                                        232T57

TROFIMENKO, D. E.

Electrical Engineering Abstracts
May 1954
Transformers

'1914.   Efficiency of impulse excitation by rectifiers on the improvement of the dynamic stability of long-distance transmission. D. E. TROFIMENKO. Elektrichestvo, 1954, No. 1, 12-14. In Russian.
An investigation for establishing the influence of the time constant of the exciter and of the "ceiling" of the excitation on the dynamic stability of a long-distance transmission in the first cycle of hunting. The calculations, based on three different transmission systems with differing characteristics, but equal generator parameters, were carried out for the case of a 2-ph. short-circuit to earth in one of the circuits of the transmission system behind the line circuit-breaker of a hydro-electric station, for various values of the transmitted power and time constants and for two values of the excitation "ceiling" (double and fourfold).   At first the permissible durations of the short-circuit were calculated on the assumption that the dynamic stability was maintained during the first cycle of hunting; from the graphs plotted, the limits of the dynamic stability were determined by the method of successive intervals, considering the variation in time of the stator reaction, and the effect of, the impulse excitation, but neglecting saturation and damping torque.   It was assumed that the impulse excitation is activated by a voltage relay responding at a voltage 90% of the normal one, within 0·04 sec and with a resetting factor equal to unity. All the results show that impulse excitation does not introduce any marked improvement in the dynamical stability compared with modern machine-exciters.   B. F. KRAUS

TROFIMENKO, D. Ye., kand. tekhn. nauk, dotsent;

Resynchronization of a hydrogenerator by electric braking.
Elektrichestvo no.6: 21-23 Je'64. (MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

TROFIMENKO, D.Ye., kandidat tekhnicheskikh nauk.

"Electric power systems and their operating processes." I.M.Markovich.
Reviewed by D.E.Trofimenko. Elek.sta. 25 no.12:55-57 D '54.(MLRA 7:12)
(Electric power production) (Markovich, I.M.)

TROFIMENKO, D.Ye., kand.tekhn.nauk dots.

Method of economic calculation taking the utilization of the saved capital expenditure into account. Izv.vys.ucheb.zav.; energ. 2 no.6:122-128 Je '59.   (MIRA 13:2)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova. Predstavlena kafedrami elektrostantsiy, setey i sistem, ekonomiki i organizatsii energeticheskogo proizvodstva.
(Power engineering)

TROFIMENKO, D.Ye., kand.tekhn.nauk dots.

Methods for the determination of the most advantageous reactive
power loading of stations and of the most economical distribution
of static capacitors among the consumers of the system. Izv.
vys.ucheb.zav.; energ. 2 no.9:1-9 S '59.
(MIRA 13:2)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
Predstavlena kafedroy elektricheskikh stantsiy, setey i sistem.
(Electric power distribution)

TROFIMENKO, D.Ye.

Modes of operation and economic indices of 1500 to 2500 km. long
a.c. power transmission lines with 600 to 800 kv. ratings. Trudy
Transp. energ. inst. Sib. otd. AN SSSR no.14:131-140 '62.
(MIRA 16:9)

(Electric power distribution)

KRICHENOVA, I.A., kand.tekin.nauk, dotsent; TROFIMENKO, D.Ye., kand.tekin. nauk, dotsent

Expediency of using 900-1,000 kv. voltages in long-distance power transmission lines. Izv. vys. ucheb. zav.; energ. 6 no.8:8-14 Ag '63.   (MIRA 16:9)

1. Ural'skiy politekhnicheskiy institut imeni Kirova. Predstavlena kafedroy elektricheskikh stantsiy, setey i sistem.
                    (Electric power distribution)

TROFIMENKO, D.Ye., kand. tekhn. nauk (Sverdlovsk)

Transmission of electric power at great distances. Elektrichestvo
no.5:87-88 My '63.   (MIRA 16:7)

(Electric power distribution)

TROFIMENKO, D.Ye., kand.tekhn.nauk, dotsent

Concerning the heating of overhead power transmission lines by
the sun. Izv. vys. ucheb. zav.; energ. 5 no.7:31-33 Jl '62.
(MIRA 15:7)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
Predstavlena kafedroy elektricheskikh stantsiy, setey i sistem.
   (Electric lines--Overhead) (Electric power distribution)

TROFIMENKO, D. Ye., kand. tekhn. nauk, dotsent

Stability of hydrogenerator with presence of electric braking.
Elektrichestvo no. 2:27-30 F '62.   (MIRA 15:2)

1. Ural'skiy politekhnicheskiy institut im. Kirova.
                        (Turbogenerators)

S/143/62/000/007/001/003
D238/D308

AUTHOR: Trofimenko, D.Ye., Candidate of Technical Sciences,
            Docent

TITLE: The heating of overhead lines by solar radiation

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Energetika,
            no. 7, 1962, 31 - 33

TEXT: A simple and fairly precise relationship is obtained
for the temperature rise due to solar radiation on a current-carrying
conductor. Curves describing the permissible loading on a conductor
heated also by solar radiation, expressed as percentages of the per-
missible loadings without solar heating, demonstrate that when tempera-
ture rise due to solar radiations is $5^\circ C$ the continuous permissible
loading must be reduced by 5 - 7 %, when it is $10^\circ C$ by 11 - 15 %, when
it is $15^\circ C$ by 17 - 24 % and when it is $20^\circ C$ by 23 - 33 %; the first
figures refer to an air temperature $20^\circ C$ and the second to $35^\circ C$. Final
temperatures calculated for different air speeds and temperatures indi-
cate that the conductor temperature rise due to solar heating is approx-

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The heating of overhead lines ...   S/143/62/000/007/001/003
D238/D308

imately equal to the temperature rise in the unloaded state. The errors
in calculating the final temperature are within 2 - 3 %. There is 1
figure.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova
                (Ural Polytechnic Institute imeni S.M. Kirov)

SUBMITTED: May 16, 1961

Card 2/2

KRICHENOVA, I.A., kand. tekhn. nauk, dots.; TROFIMENKO, D.Ye., kand. tekhn. nauk, dots.

Calculation curves of short circuit currents of the compound-wound generator. Trudy Ural. politekh. inst. no.90:133-141 '58.

(MIRA 13:2)

(Electric currents) (Electric generators)

621.313.32 : 621.311.154

3631. Analytical method of determining the internal power limit of a system of two machines. D. U. TROFIMENKO. *Elektrichestvo*, No. 6, 12-15 (June, 1951) *In Russian*.

In the voltage control of generators by hand or by automatic regulators with a zone of insensitivity the static power limit is determined by the internal characteristics of the generators and called the internal power limit. If the system comprises two or more power stations, the calculation of the e.m.f.'s of the generators corresponding to the internal power limit is a difficult problem which had previously to be solved by laborious successive approximations. Yet it must be solved in order to determine the static stability of the system. The method presented avoids these complications and applies to systems comprising two stations or reducible to the case of two stations. It is based on the following simplifying assumptions: (1) linear no-load characteristics of the generators; (2) equal phase and quadrature synchronous reactances of the generators; (3) loads may be represented by constant impedances. The system may then be represented by a system of constant quadripoles which are reducible to yield a formula for the ready solution of the simplified problem which is accurate enough for many practical purposes.   B. F. KRAUS

TROFIMENKO, D.Ye., kand.tekhn.nauk

Calculation of current distribution in a complex a.c. net-
work by use a d.c. simulating model. Elek.sta. 31 no.4:
46-48 Ap '60.   (MIRA 13:7)
               (Electric circuits)

TROFIMENKO, D.Ye., kand.tekhn.nauk, dotsent

Method for calculating complex transformer-coupled networks.
Izv.vys.ucheb.zav.; energ. no.5:20-24 My '58.   (MIRA 11:8)

1.Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Electric networks)

TROFIMENKO, F.

Superiority of the brigade method for repairing calculating
machines. Den. i kred. 17 no.3:67-68 Mr '59. (MIRA 12:4)
(Calculating machines)

TRC/

AUTHORS: Pokhilo, N.I., Dud'ko, O.A. and Trofimenko, G.A.

TITLE: A temperature regulator of improved accuracy for
                thermostats

TEXT: An accurate temperature regulator has been developed
for thermostats used in biological and other investigations with a
working volume of 1 m³. In tests of the regulator, the greatest
temperature deviation from the set value at any point of the working
chamber did not exceed ± 0.3°C. A high-stability copper wire resis-
tance thermometer serves as the temperature sensor. To increase
the accuracy of regulation, feedback is introduced through an addi-
tional sensor heater which is switched in by the controlling relay
contacts at the same time as the thermostat heater elements. The

Card 1/2

A temperature regulator ...

S/271/63/000/001/019/047
D413/D508

sensor is connected in a bridge circuit. The output voltage from the bridge diagonal is fed to the input of a three-stage DC-coupled transistorized voltage amplifier. The power amplifier is a twin-transistor phase-sensitive circuit. Variation of ambient temperature up to + 60°C and variation of supply voltage from - 20 to +10% had practically no effect on the operation of the regulator. 7 references.
/ Abstracter's note: Complete translation_/

Card 2/2

SITAJ, S.; NIEPEL,G.; SEBO,M.; KOSTKA, D.; TRNAVSKY,K.; SIPOS.J.

Apropos of the incidence of progressive arthritis. (Epidemie-
logical study). Bratisl. lek. listy 2 no.1:16-24 '64

1. Vyskumny ustav reumatickych chorob v Piestanoch (reduci:
doc. MUDr. S.Sitaj).

TRNAVSKY, K.; TRNAVSKA, Z.; MALINSKIY, J.

Effect of phenylbutazone on biochemical changes in experimen-
tal granuloma. Cas. lek. cesk. 103 no.20:550-554 15 My'64

1. Vyzkumny ustav revmatickykh chorob, pobocka Piestant
(prednosta: doc. dr. S.Sitaj) a Pracoviste elektronove mik-
roskopie lekarske fakulty PU [Palackeho university] v Olo-
mouci (vedouci MUDr. J.Malinsky).

JILEK, M.; TRNKA,J.; ZAHRADNICEK, O.

Favre-Racouchot disease. Cesk. derm. 29 no.3:173-175 My'64

1. I. dermato-venerologicka klinika fakulty vseobecncho lekar-
stvi KU [Karlovy university) v Praze; prednosta: prof. dr. J.
Konopik, DrSc.

LAUROVA, L.; MACKU, F.; TRNKA, V.

Some coments and experiences with the Aldridge technic
of abdominal hysterectomy. Cesk. gynek. 29 no.5:331-333
Je'64.

1. II. gyn.-por. klin. lek. fak. vseob. lek. KU [Karlovy
University] v Praze; prednosta: prof. dr. J. Lukas, DrSc.

TROFIMENKO, I.

Austrian industrial exhibition in Moscow. Vnesh. torg. 29
no.6:19-22 '59.   (Moscow—Exhibitions)
(MIRA 12:9)

TROFIMENKO, I.

The growing ties of friendship and cooperation between the U.S.S.R. and Ethiopia. Vnesh.torg. 29 no.8:7-9
(MIRA 12:11)

(Russia--Foreign economic relations--Ethiopia)
(Ethiopia--Foreign economic relations--Russia)

TROFIMENKO, I.

       Soviet Union in Earls Court. Vnesh. torg. 41 no.8:insert 8 p.
       '61.   (MIRA 14:8)
                (London--Exhibitions)
                (Russia--Industries)

TROFIMENKO, I. T.

"Mutual Synchronization of Reflex Klystrons Without Discontinuities in Amplitude and Frequency", by R. B. Braginskiy, S. D. Grozdover, A. S. Gorshkov, and I. T. Trofimenko, Radiotekhnika i Elektronika, No 8, August 1957, pp. 1048-1052.

The purpose of this experimental investigation was to obtain a wide band of electronic frequency retuning. The authors have established the region of the values of fundamental parameters, in which klystrons operate in synchronism without discontinuities in amplitude and frequency of the generated oscillations. The resultant range over which electronic frequency detuning is possible is three times greater than obtained with a single klystron. Although the simultaneous operation of klystrons was already considered previously by Abdel Dayen (Synchronization of Reflex Oscillators, Zhurich, 1953), the mutual synchronization studied there was under identical transit angles, and the purpose of that investigation was an increase in the general output power in the center of the oscillation region. The problem of extending the range of electronic returning of the generated of the generated frequency was not touched upon there at all.

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Physics Faculty, Moscow State Univ. im Lomonosov

SOV-120-58-3-32/33

AUTHORS: Akhmanov, S. A., Gvozdover, S. D., Konstantinov, Yu. S., and Trofimenko, I. T.

TITLE: Application of a TWT-Generator and the Observation of Electron Paramagnetic Resonance (Ispol'zovaniye LBV-generatora dlya nablyudeniya elektronnogo paramagnitnogo rezonansa)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 3, p 109 (USSR)

ABSTRACT: A travelling wave tube (TWT) connected across an external feedback circuit may be used as a generator of u.h.f. vibrations (Refs.1 and 2). The frequency of the vibrations is determined by a resonator in the feedback circuit. Such a generator has been used by the authors in the 3 cm region in the observation of electron paramagnetic resonance. The specimen under investigation (diphenylpicrylhydrazyl) was placed directly in the generator circuit and in the electromagnet gap. The uniformity of the external magnetic field was sufficiently high and had no effect on the form of absorption lines. The absorption signal was detected by a crystal detector placed in the feedback channel. As the feedback is reduced and the oscillation threshold is approached the sensitivity of the TWT

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SOV-120-58-3-32/33

Application of a TWT-Generator and the Observation of Electron
Paramagnetic Resonance

generator increases. In the observation of an absorption
signal recorded on the screen of an oscilloscope, the
signal-to-noise ratio for a specimen containing 2×10^{-8}
moles of diphenylpicrylhydrazyl was not less than 4:1
(bandwidth of the low frequency oscillator was 2 kc/s).
There are no figures or tables. Of the two references,
1 is Soviet and 1 is English.

ASSOCIATION: Fizicheskiy fakul'tet MGU (Department of Physics of
the Moscow State University)

SUBMITTED: March 11, 1958.

1. Vibration--Propagation   2. Traveling wave tubes---
Applications   3. Resonance--Magnetic factors

Card 2/2

SOV/120-59-2-11/50

AUTHORS: Akhmanov, S.A., Gvozdover, S.D., Konstantinov, Yu.S.,
            and Trofimenko, I.T.

TITLE: An Autodyne 3 cm Radiospectroscope for Electron Paramagnetic
            Resonance Studies (Avtodinnyy radiospektroskop
            3-santimetrovogo diapazona dlya nablyudeniya elektronnogo
            paramagnitnogo rezonansa)

ABSTRACT: A travelling-wave tube is fitted with variable phase-
            shifters and a ferrite isolator and is used in a
            regenerative (or super-regenerative) mode. The
            oscillation frequency is that of the cavity containing
            the specimen. The system is tested on DPPH; 2×10^{-8} mole
            is readily detected in the autodyne mode. The magnet
            is normal; a simple crystal-video detection system is
            used. The quenching frequency (20-30 kc/s) used in the
            super-regenerative mode is applied to the spiral on the
            travelling-wave tube. The sensitivity can, in
            favourable cases, be increased by a factor of 2-3, but

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SOV/120-59-2-11/50

An Autodyne 3 cm Radiospectroscope for Electron Paramagnetic Resonance
Studies

superheterodyne or other methods are needed to give
any further improvement.

Card 2/2   There are 2 figures and 4 references, of which 2 are
Soviet and 2 English.

ASSOCIATION: Fizicheskiy fakul'tet MGU
(Physics Department,   Moscow State University)

SUBMITTED: January 14, 1958

ACCESSION NR: AP4038641   S/0109/64/009/005/0822/0829

AUTHOR: Marchenko, V. F.; Trofimenko, I. T.

TITLE: Experimental investigation of a subharmonic oscillator

SOURCE: Radiotekhnika i elektronika, v. 9, no. 5, 1964, 822-829

TOPIC TAGS: oscillator, subharmonic oscillator;
computer, digital computer

ABSTRACT: A fundamental shortcoming of the 1850-mc semiconductor-diode
subharmonic oscillator (I. Abeyta, et al., Proc. IRE, 1961, 49, 1, 128) is
that it uses two parametric diodes, which makes tuning complicated and impairs
reliability. The present article suggests filters for the input-output channel
separation. The oscillator includes a subharmonic circuit, an input pumping
channel that rejects the subharmonic frequency, and an output subharmonic
channel with a filter rejecting the pumping signal. A 2500—3000-mc oscillator

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ACCESSION NR: AP4038641

microstrip design is shown in Fig. 1 of the Enclosure. Formulas and methods of calculating the oscillator components are given. These experimental curves are submitted: resonant frequency vs. diode bias voltage; output subharmonic power vs. input pumping power for various degrees of oscillator-load coupling: threshold pumping power vs. pumping frequency for two oscillator resonant frequencies. The phase locking-in of the oscillator by a weak external signal was also investigated. "The authors wish to thank S. A. Akhmanov for his constant attention to the work, and M. A. Kashintsev for his help in carrying out the measurements." Orig. art. has: 7 figures and 2 formulas.

ASSOCIATION: Fizicheskiy fakultet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Physics Faculty, Moscow State University)

SUBMITTED: 19Mar63   ATD PRESS: 3073   ENCL: 01

SUB CODE: EC   NO REF SOV: 002   OTHER: 003
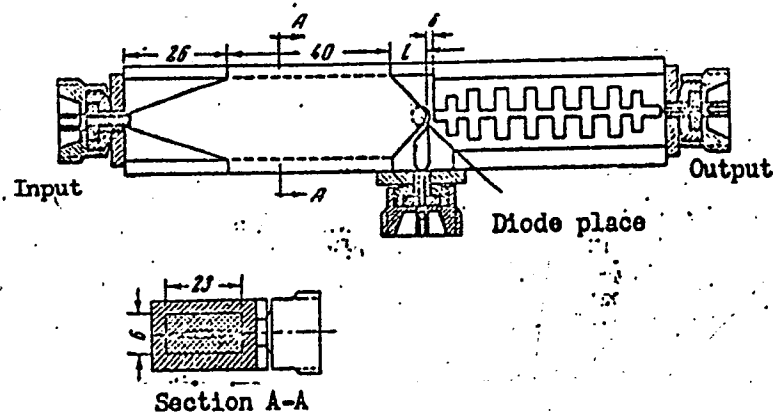
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Fig. 1. Parametric subharmonic SHF oscillator designed with
        microstrips

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Trofimenko, I.T.

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S/109/60/005/010/025/031
E073/E482

9.4231

AUTHORS: Akulina, D.K., Akhmanov, S.A., Gvozdover, S.D.,
            Gorshkov, A.S. and Trofimenko, I.T.

TITLE: Parametric Phenomena in Wave Systems With Long Electron
            Beams

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10,
            pp.1736-1739

TEXT: The phenomenon of parametric regeneration which was first
investigated by L.I.Mandel'shtam and his associates (Ref.1) in
systems with lumped constants may also occur in wave systems
(Ref.2).   The considerable interest in wave systems with
modulated parameters is due to the prospects of building stable
amplifiers and frequency converters with a very wide band which are
simple to tune and are unidirectional.   In principle, it is
possible to obtain in the wave systems noise characteristics which
are the same as those obtained in parametric circuit amplifiers.
One of the possible variants of wave systems with modulated
parameters are wave systems with long electron streams.   First, a
freely drifting beam of electrons represents a form of transmission
line;   modulation of the current density by a strong pump signal is

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E073/E482

Parametric Phenomena ...

analogous to some extent to the modulation of the distributed parameters of a transmission line (Ref.3 and 4). Another example of a waveguide system in which the modulation of the density of the electron beam can lead to parametric effects is a system consisting of a beam of electrons linked with a delay system. Wave systems with long electron beams are at present one of the most suitable fields for studying parametric phenomena in wave systems, since it is difficult to produce purely distributed wave systems with semiconductors and ferrites. In this paper the results are briefly described of experiments on parametric amplification and transformation of the frequency in wave systems with long electron beams in which the interaction of the electrons with the high frequency field in the longitudinal direction is utilized (see also earlier work of the authors, Ref.5 and 6). The experiments were made in the centimetre ($f_c \cong 3000 - 3500$ Mc/s, frequency of $f_H \cong 6000$ Mc/s) and the decimetre ($f_c \cong 1000 - 1800$ Mc/s, $f_H \cong 3000 - 3500$ Mc/s) ranges. In the experimental set-up both the pump source and the signal were introduced into the electron beam by means of sections of helical lines. The main beam of the electrons first passed

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Parametric Phenomena ...

through the first helix in which it was modulated by the pump
signal and then into the second part of the tube where it
interacted with the signal.   The interaction was realized either
in a drift tube (for feeding in and for extracting the signal,
small sections of helical lines were used) or in the helical line.
The power of the pump signal at the input and the output of the
first helix was monitored; measures were provided for filtering
the pump signal on the indicating apparatus.   The block
schematic is given.   The parametric amplification was clearly
observed in systems of both types for powers of the pump source
varying between 200 µW and   1W.   A common feature was the very
wide band of the parametric amplification.   Thus, in the
decimetre range, the amplification was in a band of about 500 to
600 Mc/s with very little change in the gain for the band of the
pump source of 200 to 300 Mc/s.   In conclusion, the following is
stated.   Parametric amplification in wave systems with electron
beams extends over a very wide band; for pump signal powers of
10 to 100 mW in systems with lengths not exceeding the dimensions
of ordinary TWT, a real gain of about 20 db and more can be
achieved.   Comparison of the experimental data with results of
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Parametric Phenomena ...

calculations by W.Loisell and C.Quate (Ref.3 and 8) shows that the
theory does not adequately explain the observed phenomenon.
Firstly, disregarding of the combination frequencies is not
justified and, secondly, various phenomena, as for instance the
non-monotonic relationship between the coefficient of parametric
amplification and the power of the pump source etc, are not
explained by the work of Loisell.   On the other hand, a number of
experimental facts are in qualitative agreement with the theory:
for instance, the selective properties of the investigated systems,
the dependence of the coefficient of parametric amplification on
the voltage of the beam for systems with a beam and a delay line.
In the investigations described, no special measures were taken
for picking up the noise energy: the minimum noise coefficient
of the systems investigated was at the level of the noise of the
appropriate travelling wave tubes.   Even in their present state
electron wave parametric systems may be of interest from the point
of view of wide band mixing and division of frequencies.
Acknowledgments are expressed to A.S.Tager for his comments on the
results and to V.G.Dmitriyev and A.A.Ovsyannikov for their

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S/109/60/005/010/025/031
E073/E482

Parametric Phenomena ...

assistance with the measurements.   There are 2 figures and
8 references: 4 Soviet and 4 non-Soviet.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo
universiteta im. M.V.Lomonosova Kafedra radiotekhniki
(Physics Department, Moscow State University imeni
M.V.Lomonosov, Radioengineering Chair)

SUBMITTED: October 30, 1959 (initially)
May 5, 1960 (after revision)

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9.4230 (1532)

AUTHORS: Akhmanov, S.A., Gorshkov, A.S. and Trofimenko, I.T.

TITLE: Frequency-division at Ultrahigh Frequencies by Means of Travelling-wave Tubes

TEXT: The problem of developing efficient and reliable frequency-dividers for the UHF range is still considered to be unsolved, in spite of the need for such devices. Frequency-dividers for these frequencies can be based on the same principle as those employed at radio frequencies. In general, it is required to develop dividers having comparatively large operating bandwidths. The authors are of the opinion that a a travelling-wave tube (TWT) with separate helices (see Fig. 1) can be used as a frequency-divider for UHF. In this device the electron beam passes through a number of helices which are used for wide-band amplification of different frequencies; the potential of each helix is chosen so as to obtain optimum interaction between the beam and the helix. The tube of Fig. 1

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consists of: 1 - electron gun; 2 - electron beam; 3, 4, 5
and 6 - delay helices and 7 - collector. The signals to be
amplified can be applied to the inputs of various helices;
in the same way, it is possible to effect mixing or multi-
plication. The separate portions of the tube can be bridged-over
with external feedback circuits. The preceding "stages" can
be used for injecting the signals which interact with the
oscillations of the system. It is possible to eliminate almost
completely the effect of the oscillations on the signal. A
TWT with separate helices should, therefore, result in a
flexible device permitting an efficient   mixing of signals
and it should have   some advantages as compared with
klystrons (Ref. 1 - Ye.N. Bazarov, M.Ye. Zhabotinskiy,
Radiotekhnika i elektronika. 1956, 1, 680; Ref. 2 - H. Lyons -
J. Appl. Phys., 21, 59, 1950). A regenerative frequency-
divider and a resonance frequency-divider based on this type
of tube were investigated experimentally. The regenerative
frequency-divider or mixer gave a division ratio of 3:4, the
input frequency being 4 200 Mc/s. this tube was in the form of

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a two-helix TWT. The first helix of the tube was used for
wideband amplification (bandwidth of 600 Mc/s) of signals at
frequencies around 4 000 Mc/s. while the second helix was
employed for the amplification of signals in the frequency
range 1 500 - 1 000 Mc/s. The signal and the local oscillator
frequencies were applied to a common waveguide which was matched
with the first helix; this helix was terminated with a matched
load, whose function was to eliminate any tendency to self-
excitation. The difference-frequency signal was obtained by
means of a coaxial cable, which was matched with the output of
the second helix. In the design of this frequency-divider or
mixer attention was paid to the investigation of its transfer
coefficient and its operating bandwidth. The experiments showed
that it was possible to obtain operating conditions under which
considerable gain could be obtained in the process. The trans-
fer coefficient was between 15 - 20 db (and even 30 db) over a
wide range of frequencies (a bandwidth of 400 Mc/s). The
frequency characteristics of such a mixer are illustrated in
Fig. 2. This shows the transfer coefficient of the mixer as a

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function of the input frequency f_1 signal and the difference
frequency f_2. The local oscillator frequency for the
experiment illustrated in this figure was $f_r = 4$ 225 Mc/s:
the collector current for the Curve(a) was 1.1 mA and for the
other curve it was 1.8 mA. It was found from the experiments
that the value of the transfer coefficient increased with
increasing collector currents; however, at comparatively large
currents it was possible to observe the regenerative effect.
Optimum conditions with regard to maximum efficiency of the
signal mixing were achieved when the operating voltage of the
first helix was about 30 - 40 V lower than that corresponding
to the maximum of the TWT gain. The overall conversion gain
exceeded the gain of TWT in both the helices by at least 5 db.
It had been shown earlier by one of the authors et al/(Ref. 7 -
Radiotekhnika i elektronika, 1960, 5, 1736) that the parametric
effects could play a significant part in the operation of a
TWT mixer. The difference-frequency of the mixer corresponds
to the difference-frequency of a travelling-wave parametric
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amplifier. In fact, the parametric-amplification conditions
represent an optimum for a TWT mixer. Consequently, the
magnitude of the mixer transfer coefficient can be estimated
on the basis of the formulae derived for the parametric wave-
guide amplifying systems (Ref. 5 - P.K. Tien - J. Appl. Phys.,
29, 1958, 1347: Ref. 6 -W. Loisell. G. Quate - Proc. IRE, 46,
707, 1958, Ref. 8 - W. Loisell - J. Electron. and Control, 6,
1, 1959). However, the overall transfer coefficient in an
actual TWT mixer is determined by the frequency-conversion
process as well as the gain in the first and second helices.
The second divider is based on the resonance of the second kind
and the harmonic locking effect. An experimental tube of this
type was constructed. The first helix of this tube was used
for injecting the signal to be divided into the electron beam,
the frequency being $2f = 6\ 000$ Mc/s; the second helix formed
a delay system with an external feedback and was tuned to the
frequency of $f = 3\ 000$ Mc/s. The frequency of the oscillator
was primarily determined by the resonance frequency of the
resonance circuit in the feedback loop, which suppressed the
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undesired oscillation modes. Depending on the damping of the attenuator, which was connected in the feedback circuit, the operating conditions of the TWT could be such as to produce oscillations or potential instability (resonance of the second kind). This system has two advantages as compared with a klystron divider: 1) the signal to be divided is introduced into the electron beam by means of a separate helix and this results in an efficient interaction between the signal and the tube and permits a 40-50 db decoupling between the tube and the signal source; 2) the relative frequency drift of the divider can be made smaller than in the klystron. In particular, this drift can be made as low as 3×10^{-6} if the tube is supplied from a battery and the effective quality factor of its resonator is $Q_N = 3 \times 10^2$. The above results show that TWT frequency-dividers with separate helices have considerable advantages: in particular, it is possible to obtain large operating bandwidths. On the other hand, it should be pointed out that the harmonic locking effect and the resonance of the

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n-th kind is probably of little use in practice since this
type of frequency-division can be efficiently performed by
semiconductor diodes with nonlinear capacitance (Ref. 10 -
D. Leenov, A. Uhlir - Proc. IRE, 47, 1724, 1959). The authors
express their gratitude to D.K. Akulina for great help in this
work and for discussing the results. The authors also thank
S.D. Gvozdover for his constant interest in this work.
There are 5 figures and 11 references: 3 Soviet and 8 non-
Soviet. Two of the four latest English-language references
not quoted in the text are: Ref. 3 - R. de Grasse, G. Wade -
Proc, IRE, 45, 1013, 1957 and Ref. 9 - C. Page, Proc. IRE,
46, 1738, 1958.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
                (Moscow State University)

SUBMITTED: July 1, 1960

Card 7/8

... work and for a discussion ...

MARCHENKO, V.F.; TROFIMENKO, I.T.

Experimental study of a subharmonic microwave generator.
Radiotekh. i elektron. 9 no.5:822-829 My '64.

(MIRA 17:7)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universi-
teta imeni Lomonosova.

AKHMANOV, S.A.; GORSHKOV, A.S.; TROFIMENKO, I.T.

Frequency division on superhigh frequencies by means of a
traveling-wave tube. Izv. vys. ucheb. zav.; radiofiz. 4
no.2:309-318 '61.   (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet.
        (Frequency changers) (Traveling-wave tubes)

V

USSR/Soil Science - Tillage. Amelioration. Erosion.   J

Abs Jour   : Ref Zhur Biol., No 1, 1959, 1412

Author   : Rubilin, Ye.V., Trofimenko, K.I.

Inst   : Severo- Osetinsk Agricultural Institute

Title   : Soil Amelioration Characteristics of the Land Used by
              the Kolkhozes of Kizlyar

Orig Pub   : Tr. Severo-Osetinsk. s.-kh. in-ta, 1956, 17, 13-37

Abstract   : The described territory is presented as a poorly drained
              plain, at several points undrained, composed of river
              and lake-estuary deposits. The latter were usually sal-
              ty. The depth of the ground waters was 10 - 300 cm.
              Soils here were formed under conditions of excessive
              ground moisture. Through indications of agricultural
              productivity there were isolated meadow solonchak soils,
              meadow-bog solonchak and alluvial soils weakly touched

Card 1/2

USSR/Soil Science - Tillage. Amelioration. Erosion.   J

Abs Jour   : Ref Zhur Biol., No 1, 1959, 1412

            by soil formation, meadow-bog solonchak soils, bog
            solonchak soils, and solonchak soils. The morphology
            and some physical-chemical properties of the soils are
            described. Meadow solonchak soils were the best in the
            investigated territory. -- G.V. Zakhar'ina

Card 2/2

                              - 35 -

KOPEYKIN, Yuriy Vissarionovich; RUBILIN, Ye.V., prof., rukovoditel' raboty;
TROFIMENKO, K.I., dotsent, rukovoditel' raboty; FILIPENOK, T.G., red.

[Soils of the Alkhanchurt Valley.] Pochvy Alkhan-Churtskoi
doliny. [Groznyi] Checheno-Ingushskoe knizhnoe izd-vo, 1963.
141p. (Grozny. Chechero-Ingushskii nauchno-issledovatel'skii
institut. Izvestiia, vol.7).   (MIRA 17:12)

14-57-7-14970

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7, p 126 (USSR)

AUTHOR: Trofimenko, K. I.

TITLE: A Description of the Chestnut Soils of Eastern Ciscaucasia (K kharakteristike kashtanovykh pochv Vostochnogo Predkavkaz'ya)

PERIODICAL: Tr. Severo-Osetinsk. s.-kh. in-ta, 1956, Vol 17, pp 39-54

ABSTRACT: The eastern Ciscaucasia represents an alluvial-delta plain sloping from 300 m down to 26 m from southwest to northeast. Its western part is covered with ancient alluvial loess-type loams and clays which usually contain carbonates. The eastern part is made up of marine deposits. The climate is arid, with an annual precipitation of 290 mm in the east and 400 mm in the west. Precipitation reaches its maximum in

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14-57-7-14970

A Description of the Chestnut Soils (Cont.)

the first half of the summer. The western steppes, covered with
different kinds of grasses and cereals, change in the east either to
steppes bearing cereals or to deserts with wormwood and grasses or
with wormwood alone. The western dark chestnut soils change corre-
spondingly to chestnut and light chestnut soils in the east, and to
brown soils toward the shores of the Caspian Sea. The soil cover is
characteristically varied (chestnut, solonetz, and solonchak soils).
The author notes that the chestnut soils of the eastern Ciscaucasia
are thicker than similar soils found in the southern and southeastern
USSR. This is due to the less continental climate, to the high
carbonate content at the surface, and to the absence of compacted
layers (except in light chestnut soils with various degrees of sa-
linity). At the present time ground water lowering and biological
desalting are placing the solonchak and solonetz soils of the
eastern Ciscaucasia in the realm of relict features. A bibliography
of 41 titles is included.   E. K.
Card 2/2

J-2

USSR/Soil Science.   Soil Genesis and Geography.

Abs Jour   : Ref Zhur - Biol., No 5, 1958, 20030

Author   : Trofimenko, K.I.

Inst   : Severo-Osetinskiy Agricultural Institute.

Title   : A Contribution to the Characterization of the Chestnut
               Soil of the Eastern Caucasus Foot Hill Region.

Orig Pub   : Tr. Severo-Osetinsk. s.-kh. in-ta, 1956, 17, 39-54

Abstract   : Chestnut soil occupies   22% of the territory of the
               Eastern Caucasus foot hill region. The author differen-
               tiates the dark chestnut, chestnut and light chestnut
               soils. The latter are characterized by thin A + B hori-
               zons ($\sim$ 45 cm) and a humus content of 2-3%. The cation-
               exchange capacity of light chestnut soil is 16.22-20.42
               milliequivalents. Ca predominates in the soil-absorbing
               complex. Carbonate, washed out and saline light chestnut

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USSR/Soil Science - Soil Genesis and Geography.

Abs Jour   : Ref zhur - Biol., No 5, 1958, 20030

soils are encountered. The latter are characterized by light salinity at 3-5% Na of the absorptive capacity. The chestnut soils have a humus horizon ~60 cm thick, containing 3-4% humus. Carbonate, washed out and weakly salty chestnut soils are found. The dark chestnut soils care characterized by the A + B horizons being   80 cm in thickness and containing 4-5% of humus. These soils are the most valuable reserve of arable land in the territory described. The average store of humus in these soils in ~300 tons per hectare, with 0.23% N content, the free P 22 milligrans and K 44 milligrans per 100 grams of soil. Ca is predominant in the abosrbing complex. The carbonate dark chestnut soils effervescing at the surface are the most widespread. The chestnut soils of the foot hill country of the Caucasus differ from these soils by its high degree of carbonation, the considerable

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USSR/Soil Science - Soil Genesis and Geography.   J-2

Abs Jour   : Ref Zhur - Biol., No 5, 1958, 20030

thickness of the soil profile and the absence of packed
horizons with the exception of the alkaline varieties.

Card 3/3

- 6 -

TROFIMENKO, K. I. Cand. Geolog-Mineralog Sci.

Dissertation: "Soils on the Right Bank of the Terek River in North Osetia." Soil
Inst. imeni V. V. Dokuchayev. Acad Sci. USSR. 5 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17836)

TROFIMENKO, K.I.

F.N. Kurakin and K.I. Trofimenko, Ordena Lenina semenovodcheskiy sovkhoz "Kuban"
/ The "Kuban" Seed-Growing sovkhoz, decorated with the Order of Lenin/, Sel' khoz-
giz, 8 sheets.
    The book tells of the achievements of one of the best sovkhozes of the USSR,
which obtains high yields of agricultural crops and successfully develops livestock
farming.
    Intended for agricultural workers.

SO: U-6472, 15 Nov 1954

PAVLUKHIN, O.I.; SAMYLIN, A.K.; SIDASH, Ye.S.; TROFIMENKO, M.S.

Recording device with noncontact compensation unit. Avtom.i
prib. no.4:60-63 O-D '62.   (MIRA 16:1)

1. Ukrainskiy nauchno-issledovatel'skiy trubnyy institut.
                              (Recording instruments)

ANGEL'YEV, D.; TROFIMENKO, N.; SHAKALOV, O.

The crop depends on effort and knowledge. Zemledelie 26
no.5:21-28 My '64.
(MIRA 17:6)

1. Direktor sovkhoza "Gigant", Rostovskoy obl. (for Angel'yev).
2. Glavnyy agronom sovkhoza "Gigant", Rostovskoy obl. (for Trofimenko).
3. Starshiy agronom sovkhoza "Gigant", Rostovskoy obl. (for Shakalov).

TROFIMENKO, N.; SHAKALOV, O.: TURCHENKOVA G.

Chemicalization as a way for increasing the production of grain.
Zemledelie 26 no.9:79 S '64.   (MIRA 17:11)

1. Glavnyy agronom sovkhoza "Gigant" Rostovskoy oblasti (for
Trofimenko). 2. Starshiy agronom-polevod sovkhoza "Gigant"
Rostovskoy oblasti (for Shakalov). 3. Zaveduyushchaya agro-
khimicheskoy laboratoriyey sovkhoza "Gigant" Rostovskoy oblasti
(for Turchenkova).

ANGEL'YEV, D.; TROFIMENKO, N.; SOLDATOV, I.; SHVYDCHENKO, L.I., red.;
   POPOVA, N.A., tekhn. red.

[A centner of grain in 38 minutes; from the practices of the "Gigant"
State Farm in Rostov Province]TSentner zerna - za 38 minut; iz opyta
sovkhoza "Gigant," Rostovskoi oblasti. Rostov-na-Donu. Rostovskoe
knizhnoe izd-vo, 1961. 20 p.   (MIRA 15:11)

1. Direktor sovkhoza "Gigant" Rostovskoy oblasti (for Angel'yev).
2. Glavnyy agronom sovkhoza "Gigant" Rostovskoy oblasti (for
Trofimenko). 3. Glavnyy inzhener sovkhoza "Gigant" Rostovskoy
oblasti (for Soldatov).
                         (Grain)

TROFIMENKO, N. M.   Cand Biol Sci -- "The yeast flora of Moldavia and its importance

for viniculture."   Kishinev, 1960   (Min of Agr MSSR.   Sci Res Inst of Horticulture,

Viniculture and Viticulture).   (KL, 4-61, 193)

TROFIMENKO, N.M.; GARKAVENKO, A.I.

Production of fodder yeast. Izv. AN Mold. SSR no.7:10-13
'62.   (MIRA 16:2)
                        (Moldavia—Yeast as feed)

KOTELEV, V.V.; TROFIMENKO, N.M.; DEMIRCHOGLYAN, B.L.; NIKOLAYEVA, A.V.

 Assimilation of biomycin and terramycin adsorbed on clays by
chickens. Izv. AN Mold. SSR no.7:43-46 '62. (MIRA 16:2)
  (Aureomycin)   (Terramycin)
    (Poultry--Feeding and feeds)

GUBKIN, A.N.; SERGIYENKO, V.F.; TROFIMENKO, N.M.

    Theory of electret vibration pickups. Prib. i tekh. eksp. 6
    no.2:166-169 Mr-Ap '61.   (MIRA 14:9)

    1. Fizicheskiy institut AN SSSR.
                    (Electrets) (Transducers)

TROFIMENKO, N.G.; TIKHONOVICH, S.Ye.; ZABOROVSKIY, B.A.

Designing developing machines for processing black-and-white
motion-picture film copies. Tekh.kino i telev. 4 no.9:41-43 S
'60.
(MIRA 13:9)
(Motion-picture industry--Equipment and supplies)

21419

AUTHORS: Gubkin, A. N., Sergiyenko, V. F. and Trofimenko, N.M.

TITLE: On the Theory of Vibroprobes with Electrets

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.2, pp.166-169

TEXT: Electrets are sources of a constant electric field and
can be used in instruments, the operation of which is based on
inducing an a.c. current in the field of the electret.   Several
designs of electret vibroprobes are described in literature but,
according to the author, the theory of their operation has not been
evolved.   Fig.1 shows a diagrammatic representation of an electret
between two metallic electrodes   A   and B which are connected
through an external resistance   R ("short-circuited" electret).   On
the basis of electrostatic formulae, the following relation is
valid

$$\sigma = \sigma_o/(\varepsilon \ell/L + 1) \tag{1}$$

where σ is the density of the charge induced on the electrodes,
σ_o - electret surface charge density, L - "electret thickness",
ℓ - the gap between the electrode   A   and the surface of the
electret.   In the case that the electrode   A   vibrates relative to
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On the Theory of Vibroprobes...

the electret, an alternating current, $I = S \, d\sigma/dt$, will flow in the external circuit, S being the area of the electret surface. The potential difference can be expressed by the following equation:

$$U = \frac{\varepsilon S}{L} \frac{\sigma_o}{(\varepsilon \ell/L + 1)^2} \frac{d\ell}{dt} \frac{R_o}{(1 + R_o/R)} \qquad (2)$$

where R is the external resistance of the circuit, R_o - internal capacitive reactance of the short-circuited electret.   Eq.(2) is the basic equation characterizing the operation of various electret instruments (microphones, telephones, vibration probes etc.). Accordingly, the voltage on the input resistance is proportional to the relative speed of displacement of the electrode A. In order that the output signal is proportional to the relative electrode displacement and not to the speed, it is necessary to integrate Eq.(2) with time. By differentiating Eq.(2) with time we obtain an output signal that is proportional to the relative acceleration of the mobile electrode. The sensitivity of the vibroprobe as regards acceleration can be expressed by

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$$N_y = \frac{U_o}{d_o \omega^2} = A\,\sigma_o \frac{z}{\omega_o(1-z^2)} \frac{R_o}{(1+R_o/R)} \qquad (6)$$

and, as regards displacement, by

$$N_c = \frac{U_o}{d_o} = A\,\sigma_o \frac{z^2\omega}{(1-z^2)} \frac{R_o}{(1+R_o/R)} \qquad (7)$$

The two extreme cases are considered: 1) A rigid membrane, $z = \omega/\omega_o \ll 1$ (ω_o - natural frequency of the mobile electrode). At low frequencies the sensitivity of acceleration probes will be directly proportional to the vibration frequency ω or will not be dependent on the frequency ω if the output signal is integrated with time; 2) a soft membrane, $z = \omega/\omega_o \gg 1$. In this case it is better to use an electret vibroprobe for measuring displacement. Verification of the results was carried out by means of an experimental electret vibroprobe made of a calcium titanate electret B ($\varepsilon = 150$, 2.5 cm diameter, 0.15 cm thick) fixed into a special insulator base C. The membrane E is above

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ZILZ

On the Theory of Vibroprobes...   S/120/61/000/002/032/042
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the electret surface, the air gap between the membrane and the
electret surface was 0.015 cm.   A thin brass foil was used as a
second electrode.   The membrane was connected to the metallic
body A which was grounded; from the second electrode a lead D
to the external circuit was provided. The surface density of the
electret charge equalled 2×10^{-9} Coulomb/cm^2. The signal was fed
to the input resistance of a tube voltmeter with R = 2 megohm.
The experimentally determined resonance frequency of the mobile
electrode f_q equalled 1650 c.p.s. Good agreement between
calculated and experimental results were obtained. Fig.3 shows
the sensitivity of the vibroprobe with respect to acceleration N_y
(mV/g) as a function of the vibration frequency (c.p.s.). It is
pointed out that electret vibroprobes operate without external
supply sources and, in contrast to electromagnetic probes, the
alternating current is induced by the electric field and not by the
magnetic field. If the system, electret system-mobile electrode,
is considered as a plane condenser, a certain analogy can be
arrived at between electrets and capacitance probes, the main
difference being that capacitance probes require an external field.

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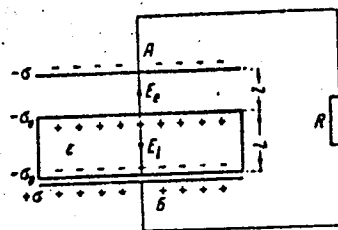
On the Theory of Vibroprobes ...   S/120/61/000/002/032/042
E210/E594 .

Acknowledgments are expressed to V. A. Shmelev for evaluating the results and to G. A. Rodionova for her assistance in the experimental work. There are 3 figures and 5 references: all Soviet.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute AS USSR)

SUBMITTED: April 27, 1960

Fig.1

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On the Theory of Vibroprobes ...
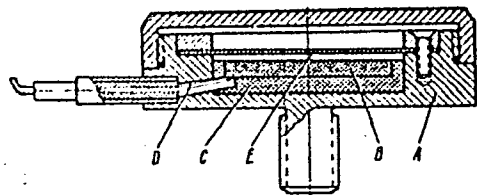
2419

S/120/61/000/002/032/042
E210/E594
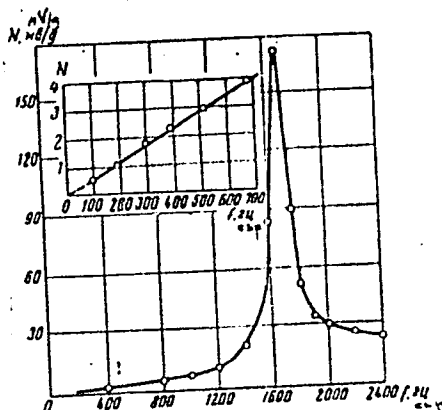
Fig.2

Fig.3

D C E B A

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Trof Imenko, N. Ya.

MANEVICH, A.A.(Kemerovskaya oblast', g. Stalinsk, Shkol'naya ul., d.28, kv.22)
TROFIMENKO, N.Ya. (Kemerovskaya oblast, g. Stalinsk, Voroshilovskoye shosse, d.3, komnata 107)

Tezan-25 in the prevention and treatment of radiation sickness in cnacer patients [with summary in English]. Vop.onk. 3 no.6:724-728 '57.
(MIRA 11:2)

1. Iz kafedry onkologii (i.o.zav. - dots. A.A.Manevich) Stalinskogo
instituta usovershenstvovaniya vrachey (dir. - prof. A.N.Araviyskiy)
i Stalinskogo gorodskogo onkologicheskogo dispansera (glavnyy vrach -
Ye.N.Nikolayeva)
    (RADIATION PROTECTION
        thezan 25 in radiother. of cancer)
(NEOPLASMS, ther.
        radiother., radiation protection with thesan 25)

DOMARADSKY, .V.; NOSKOVA, L.I. ; TROFIMENKO, N.Z.

Dry culture media from acid hydrolysates of blood proteins for
the cultivation of the plague microbe. Dokl. Irk. gos. nauch.-
issl. protivochum. inst. no.5:57-58 '63 (MIRA 18:1)

NOSKOVA, L.I.; TROFIMENKO, N.Z.; KOLESINSKAYA, N.I.

Dry bouillon for the cultivation of the plague microbe under aeration. Dokl. Irk. gos. nauch.-issl. protivochum. inst. no.5: 59-60 '63
(MIRA 18:1)

TROFIMENKO, N.Z.; DOMARADSKIY, I.V.; NOSKOVA, L.I.; MIKHALEVA, V. Ya.

Media from soybean acid hydrolysate for the cultivation of the
plague microbe. Dokl. Irk. gos. nauch.-issl. protivochum. inst.
no.5:48-52 '63
(MIRA 18:1)

NOSKOVA, L.I.; TROFIMENKO, N.Z.; MIKHNO, V.S.

Meat-acid hydrolysate for growing cholera and plague microbes.
Izv.Irk.gos.nauch.-issl.protivochum.inst. 18:111-115 '58.
(MIRA 13:7)
(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)
(PASTEURELLA PESTIS) (VIBRIO COMMA)

DOMARADSKIY, I.V.; TROFIMENKO, N.Z.; NOSKOVA, L.I.

Method for the preparation of acid hydrolysates of meat for
culturing the plague microbe. Izv. Irk. gos. nauch.-issl. protivochum.
inst. 21:370-373 '59.   (MIRA 14:1)
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