

PA - 3578

On Co-ordination of the Second Harmonic Magnetic Amplifier
Effected by a Load.

(6 illustrations and 4 Slavic references)

ASSOCIATION: Not given

PRESENTED BY:

SUBMITTED: 17.4.1956

AVAILABLE: Library of Congress

Card 2/2

103-8-3/8

AUTHOR
TITLE

MIKHAYLOVSKIY, V.M., SPEKTOR, Yu. I. (L'viv)

Some Problems of the Theory of Second Harmonic Magnetic Amplifiers
and Magnetic Modulation Sounds

(Nekotoryye voprosy teorii magnitnykh usiliteley i magnitomodulyatsion-
nykh zondov tipa (vtoroy garmoniki)". Russian)

PERIODICAL

Avtomatika i Telemekhanika, 1957, Vol 18, Nr 8, pp 716 - 723 (U.S.S.R.)

ABSTRACT

The attempt was made here analytically to investigate the function for the transformation of magnetic amplifiers and sounds of the type "second harmonic vibration" with consideration of magnetic reversal and eddy-current losses. The common system of a two-element magnetic amplifier (sound) with excitation windings connected in series and measurement windings connected differentially in series was investigated. It is assumed that the electromagnetic processes in the amplifier (sound) armature proceed according to the outmost loop of the hysteresis, and that excitation of the armature is brought about by a purely sinusoidal current. The excitation winding produces a homogeneous exciting field according to the length of the anchor. From the formulae derived here it may be seen that the modulus and phase of the individual EMF-components of the measuring winding depend on the voltages of the exciting field and those of the measured field. In the apparatus of the type investigated here the second harmonic of the EMF of the measuring winding is usually used as initial quantity. For checking the theoretical investigations

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Some Problems of the Theory of Second Harmonic Magnetic Amplifiers
and Magnetic Modulation Sounds

an experimental analysis was performed the data of which are in good agreement with the calculated ones. It is stated that the presence of losses causes the dependence of the phase of initial voltage on the voltage of the measured magnetic field.
(With 6 illustrations, and 2 Slavic references).

ASSOCIATION
PRESENTED BY
SUBMITTED
AVAILABLE

Not given

24.10.1956
Library of Congress

Card 2/2

MIKHAYLOVSKIY, V.M. [Mykhaylovs'kyi, V.M.]

Information criteria for evaluating telemetering systems [with
summary in English]. Avtomatyka no. 2:75-84 '58. (MIRA 11:8)

1. Institut mashinoznavstva i avtomatiki AN URSS.
(Telemetering)

KOGAN, A.V.; MIKHAYLOVSKIY, V.N.

Applying radioactive sources for recording in automatic recording
instruments. Avtom.kont.i izm.tekh. no.2:86-90 '58. (MIRA 11:7)
(Radioactive substances--Industrial applications)

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 ... Construction ...
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- 1. Telemeter systems--Design
- 2. Telemeter systems--Performance
- 3. Telemetry circuits
- 4. Radioactive substances--Analysis
- 5. Radioactive substances--Spectra

IVANOV, S.K., kand. tekhn. nauk; MIKHAYLOVSKIY, V.N., kand. tekhn.nauk

Measuring the azimuth of underground coal gasification boreholes
in presence of geomagnetic field anomalies. *Podzem. gaz. ugl. no4:*
59-62 '58. (MIRA 11:12)

1. Institut mashinovedeniya AN USSR.
(Mine surveying) (Magnetic measurements)

9(6), 14(5)

AUTHORS: Mikhaylovskiy, V. N., Svenson, A. N. SOV/152-59-3-23/25

TITLE: A Telemetering System for Complex Core Sampling by Electrical Means on a Single-core Cable (Teleizmeritel'naya sistema dlya kompleksnogo karotazha na odnozhil'nom kabele)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz, 1959, Nr 3, pp 105-112 (USSR)

ABSTRACT: In the Institut mashinovedeniya i avtomatiki (Institute of Machine Construction and Automation) of the AS UkrSSR a telemeter was developed with 10 frequency-modulated measuring channels which can be synchronously connected and which serve for measuring 8-10 different quantities. The synchronization of transmitter and receiver is carried out over synchronously and synphasically operating electron commutators. The circuit diagram of the measuring and receiving device is given. An experimental model will be tested in practice. There are 5 figures and 2 Soviet references.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN Ukrainskoy SSR
(Institute of Machinery and Automation of the
AS UkrSSR)

Card 1/2

MIKHAYLOVSKIY, V.N.; SVENSON, A.N.

Multiplex telemetering system for radiation logging. Izv. vys.
ucheb. zav.; neft' i gaz 2 no.6:97-102 '59. (MIRA 12:10)

1. Institut mashinovedeniya AN USSR.
(Oil well logging, Radiation)

BELEN'KIY, Ya.Ye.; MIKHAYLOVSKIY, V.N.; SVENSON, A.H.

Multichannel telemetric device for complex geophysical investigations of wells. Geol.nefti i gaza 3 no.1:52-55 Ja '59.
(MIRA 12:4)

(Prospecting--Geophysical methods)
(Remote control)

67481

24,2200

SOV/24-59-4-27/33

AUTHORS: Andriyevskiy, Ye.A. and Mikhaylovskiy, V.N. (L'vov)

TITLE: Influence of Temperature and External Magnetic Fields on the Stability of Permanent Magnets¹ Made from Iron-nickel-aluminium Alloys

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1959, Nr 4, pp 210 - 214 (USSR)

ABSTRACT: For most modern high-coercitivity alloys, no information is available on the limits of linearity and reversibility of the changes caused by temperature and variations in the external magnetic field. Therefore, the authors of this paper have investigated the influence of temperature and external magnetic field on the magnetic characteristics of permanent magnets by employing the compensation magnetometric method, using magneto-modulation pick-ups. The effect of the investigated magnet on the pick-up, after the measurement of its remanent magnetisation in the initial state, was balanced by means of an auxiliary compensating magnet. This permitted the measurement of

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**Influence of Temperature and External Magnetic Fields on the
Stability of Permanent Magnets Made from Iron-nickel-aluminium
Alloys**

the changes of the remanent magnetisation ΔJ of the magnet, while the temperature or the external field was varied. The measuring equipment permitted the determination of the temperature and induction coefficients with an error not exceeding 2-4%. The composition of the investigated materials is indicated in the table on p 210. The measured samples were in the form of cylindrical rods, having dimensions 20 x 120 mm. De-magnetisation curves of these samples are shown in Figure 1. The dependence of the temperature coefficients of the magnets (of the above six alloys) on the de-magnetisation coefficient is illustrated in Figure 2; the 'solid' curves refer to the relative de-magnetisation of 10%, while the 'dashed' curves are for the 40% de-magnetisation. The de-magnetisation coefficient N was defined as $N = 4\sqrt{2 - d/l}$, where d is the diameter of a magnet and l its length. The temperature coefficients of Figure 2 were determined relatively to the temperature of

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Influence of Temperature and External Magnetic Fields on the Stability of Permanent Magnets Made from Iron-nickel-aluminium Alloys

20 °C, which was regarded as the standard temperature; the investigated range of temperatures extended from 0 to 100 °C. The effect of the external field is illustrated in Figures 3-6. Figure 3 shows the dependence of the induction coefficient on the de-magnetisation factor N (10 and 40% de-magnetisation). The induction coefficient is defined as $\nu = \Delta J / J \Delta H_{BH}$, where J is the remanent magnetisation of the magnet, ΔJ is its reversible change during the interaction of an external field ΔH_{BH} on the magnet. (The relationships are linear but at different slopes for different materials.) If an irreversible change ΔJ_H of the remanent magnetisation is of interest, the effect can be described by the so-called irreversible induction coefficient; the magnitude of this coefficient as a function of the external longitudinal field is shown in Figure 4. It is also possible

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Influence of Temperature and External Magnetic Fields on the Stability of Permanent Magnets Made from Iron-nickel-aluminium Alloys

to define a coefficient of irreversibility

$k = \Delta J_H / J_H^2 \Delta H_{BH}$; the dependence of this on N is illustrated in Figure 5. The relative decrease in the longitudinal magnetisation as a function of a transverse magnetic field is illustrated in Figure 6. From the measurements it is concluded that the stability of permanent magnets made from Fe-Ni-Al is largely dependent on their geometric dimensions (de-magnetisation coefficient) and the degree of initial de-magnetisation. There are 6 figures and 8 references, of which 1 is English, 1 German and 6 Soviet.

SUBMITTED: May 30, 1959

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SOV/49-59-6-8/21

AUTHORS: Berkman, R. Ya., Mikhaylovskiy, V. N.

TITLE: The Tension Measurements of a Weak Alternating Magnetic Field of Low Frequency in Geophysical Prospecting.

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 6, pp 865-871 (USSR)

ABSTRACT: The improved method of measuring the magnetic field by means of an induction coil is described, the e.m.f. of which is defined by Eq (1). Its maximum sensitivity for a load R_H (Fig 1) is calculated from Eqs (2) and (3). The method of measurements is based on the principle of magnetic modulation obtained from an auxiliary field produced by a ferromagnetic element (sond). The characteristic of a magneto-modulating gauge, MMD, is defined by the function (4), where S_k - sensitivity of MMD on the k-th harmonic, $H(t)$ - tension of the outer field, n^0 - unit vector in the direction of the MMD axis, ω_0 - frequency of the generated current in MMD. A typical example of the second harmonic MMD arrangement is illustrated in Figs 2 and 3, where a generator 1 supplies the current of frequency ω_0 to the MMD 2 and the phase detector 4. The function

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The Tension Measurements of a Weak Alternating Magnetic Field of Low Frequency in Geophysical Prospecting

of the second harmonic $2\omega_0$ at the output (Eq 6) of the MMD (U_d , Fig 3b) is proportional to the component H (Eq 5) of the outer field (Fig 3, a, thick line). In order to measure H_m and φ_H , the amplifier 3 separates the signal components $2\omega_0 + \omega$ and $2\omega_0 - \omega$, i.e. its filtering band should be equal to 2ω . The resultant sensitivity of the device can be determined from the formula (7) where H - effective tension, S_2 - sensitivity of MMD, k_3 and k_6 - amplification coefficients of the amplifiers 3 and 6 respectively, k_5 - transition coefficient of the filter 5, k_4 and k_8 - rectification coefficients of detectors 4 and 8 respectively, U_{np} - output tension of detector 8. The maximum sensitivity of the MMD with

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The Tension Measurements of a Weak Alternating Magnetic Field of Low Frequency in Geophysical Prospecting

a load, illustrated in Fig 4, can be determined from Eq (8). The gain of sensitivity obtained by this method can be determined from Eq (10). This, in practice, amounts to 100 to 10 000 times higher than the sensitivity of an ordinary inductive method. This was confirmed by experiments with a scale model corresponding to the layout (Fig 2) and the model, Fig 5. The results of measurements are shown in Fig 6 and the table on p 870. There are 6 figures, 1 table and 10 references, of which 9 are Soviet and 1 English.

ASSOCIATION: Institut mashinovedeniya i avtomatiki AN USSR (Institute of Machines Management and Automation, Academy of Sciences, Ukrainian SSR)

SUBMITTED: June 4, 1958.

Card 3/3

SOV/49-59-11-23/28

AUTHORS: Mikhaylovskiy, V. N., and Spektor, Yu. I.

TITLE: The Application of a Magneto-Modulation Gauge for the Determination of Magnetisation of Rock Samples

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya 1959, Nr 11, pp 1702-1707 (USSR)

ABSTRACT: A separation of the residual magnetic field of rock samples from the inductive one could be achieved by an application of a magneto-modulation gauge. The effect of a non-uniform magnetic field H_{gr} on the gauge can be defined as Eqs (1) to (3) where h_x - constant magnetic component along the gauge axis, the length of which is $2l$ (Fig 1). Thus the magnetic field of a rock sample can be determined from its position in relation to the gauge axis. Two cases can be distinguished.

1. $Y_0 = 0$; i.e., the centre of the sample is in line with the gauge axis (Fig 2, a). The formula (3) in this case takes the form of Eq (4). 2. $X_0 = 0$, the centre of a sample is placed on the straight line perpendicular to the centre of the gauge axis (Fig 2, b) and Eq (5) is applied here. In order to eliminate external influences, the gauge applied is designed as a

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SOV/49-59-11-23/28

The Application of a Magneto-Modulation Gauge for the Determination of Magnetisation of Rock Samples

gradient-meter (DG). Its possible positions are illustrated in Fig 3. A layout of the actual measuring apparatus tested in IGPI, Academy of Sciences USSR, is given in Fig 4, where 1 - AC generator of 1000 c/s, 2 - magneto modulating gauge (gradient meter of the second harmonic type) 3 - filter $2f = 2000$ c/s, 4 - wide-band amplifier, 5 - phase detector. The results obtained by this method gave an accuracy of $(20 \pm 5)\%$. There are 4 figures and 1 Soviet reference.

ASSOCIATION: Akademiya nauk USSR, Institut mashinovedeniya i avtomatiki (Academy of Sciences USSR Institute of Machine Construction and Automation) ✓

SUBMITTED: December 13, 1958

Part 2/2

IVANOV, Stepan Konstantinovich; MIKHAYLOVSKIY, Vladimir Nikolayevich;
IZRAILEVA, G.A., red. izd-va; BYKOVA, V.V., tekhn. red.

[New instruments for measuring deviations of prospecting holes]
Novye pribory dlia izmereniia krivizny razvedochnykh skvazhin.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i okhrane nedr,
1960. 32 p. (MIRA 14:6)

(Boring)

PHASE I BOOK EXPLOITATION

SOV/5167

Mikhaylovskiy, Vladimir Nikolayevich, and Stepan Konstantinovich Ivanov

Izmereniye krivizny skvazhin (Measuring Well Deviation) Kiyev, Izd-vo AN UkrSSR, 1960. 181 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk Ukrainskoy SSR. Institut mashinovedeniya i avtomatiki.

Ed. of Publishing House: N. M. Titova; Tech. Ed.: O. A. Kadashevich.

PURPOSE: This book is intended for engineers and technicians interested in problems of the development and application of instruments used for measuring well deviation.

COVERAGE: The book discusses the theory and methods for measuring the deviation of wells, considers the basic characteristics of possible transmission channels of information from the bottom face to the mouth of the borehole, and describes the principles of

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Measuring Well Deviation

operation of sensing elements, transducers, and standard instruments, intended for measuring the deviation of wells. Special attention is given to showing the possibility of using natural communication channels, magnetomodulation transmitters (ferrosondes), and indirect methods for measuring the deviation of test wells running in ferromagnetic media. Chs. I - III and VI were written by V. N. Mikhaylovskiy, Chs. IV, V, VII, and X by S. K. Ivanov, and the introduction and Chs. VIII and IX by both authors jointly. A number of personalities are mentioned in the text. There are 106 references: 92 Soviet, 11 English, and 3 German.

TABLE OF CONTENTS:

Introduction 5

Ch. I. Use of the Fluid Filling the Well as the Channel, and the Elastic Waves as the Agent of Transmission of Information 12

1. Theoretical concepts on internal energy losses of

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S/194/61/000/007/009/079
D201/D305

AUTHORS:

Bragin, A.A., Mikhaylovskiy, V.N. and Svenson, A.N.

TITLE:

Non-linear parameter RC-integrators

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1961, 7, abstract 7 B42 (V sb. Vses. Mezhvuz. konferentsiya po teori i metodam rescheta nelineyn. elektr. tsepey, no. 2-1, Tashkent, 1960, 46-53)

TEXT: The principles are described and mathematical relationships given for integrating circuits with a controlled time constant for operation with the radioactive particle counters. In the first of the described circuits, the non-linear component of the integrating circuit, to which the dosimeter applies a fixed charge for every pulse, consists of a diode-connected triode, biased near the cut-off. In the second circuit the non-linear resistance is constituted from linear passive resistors and diodes with resistive loads. 3 figures. 5 references. [Abstracter's note: Complete translation] ✓
Card 1/1

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S/194/61/000/009/019/053
D209/D302

21.6000

AUTHORS:

Bragin, A.A., Lisitskaya, I.N., Mikhaylovskiy, V.N.
and Svenson, A.N.

TITLE:

Multichannel gamma-spectrometer with a time analyzer

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 9, 1961, 20, abstract 9 V171 (V sb. Avtomat.
kontrol' i izmerit. tekhn., no. 4, Kiyev, AN USSR,
1960, 124-132)

TEXT:

A measuring apparatus in the form of a multi-channel amplitude analyzer with a time selector is described. It measures the intensity, energy and time of the radioactive radiation, and is utilized in radioactive sampling. The underground instrument consists of an impulse neutron tube; a radioactive radiation indicator; an electronic control switch operated by synchro-impulses from the neutron tube; a frequency modulator. On the surface a frequency discriminator, a multi-channel amplitude analyzer and a conversion

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D209/D302

Multichannel gamma-spectrometer...

block are placed. The communication between the bottom and the surface instruments is achieved by means of a single channel telecommunication system. The block diagram of the instrument is given. The main circuits of most characteristic units and blocks are analyzed.

1) An electronic switch consisting of three cathode repeaters passes through an impulse which appears during a given time interval and stops all remaining impulses, including those that appear during the given interval, but arrive after the first impulse. A protection against the effect of splitting an impulse is provided. Instability of the transfer characteristic of the switch is 1 - 1.5%, nonlinearity 3 - 5%. 2) A multichannel amplitude analyzer consisting of shaping blocks, a pre-discrimination and an impulse sorter with several channel outputs which have a recording counting system connected to them. The operation of the impulse sorter is described in detail. The circuit of the counting block of the recording system is provided. The counter consists of a solid state binary counting circuit with a mechanical counter at the output. The position of

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Multichannel gamma-spectrometer...

the trigger units is fixed by means of indicating lamps connected
via polarized relays. 4 figures. 8 references. [Abstracter's
note: Complete translation]

Card 3/3

X

MARFYNYUK-LOPOTSKIY, R.Ye.; MIKHAYLOVSKIY, V.N.

Measurement of magnetic gradients. Avtom.kont.i izm.tekh. no.4:
140-156 '60. (MIRA 13:8)

(Magnetism, Terrestrial)

(Prospecting--Geophysical methods)

9.8000

S/115/60/000/010/022/028
B021/B058

AUTHOR: Mikhaylovskiy, V. N.

TITLE: "Evaluation Indices and the Possibility to Raise the Quality of Telemetric Systems"

PERIODICAL: Izmeritel'naya tekhnika, 1960, No 10, p. 6.

TEXT: The application of information-theory fundamentals is studied for solving individual problems of telemetry. A series of information indices of discrete telemetric systems are mentioned. It is shown that the quality of the telemetric system can be evaluated most thoroughly and objectively through information indices. An analysis of the terms of information indices permits to clarify the possible ways for raising the quality of telemetry and telemetric systems.

B

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S/552/60/000/027/008/008
H000/H000

AUTHORS: Berkman, R. Ya., and V. N. Mikhaylovsky

TITLE: Measuring the intensity of alternating low-frequency magnetic fields by double signal conversion.

SOURCE: Prikladnaya geofizika (sbornik statey), no. 27, 1960, 212-222

TEXT: The method of double conversion of signals for measuring intensity of alternating low-frequency magnetic fields is schematically described and its advantages over ordinary self-induction methods are outlined. The method utilizes the investigated field itself to magnetically modulate an auxiliary high-frequency field excited in a ferromagnetic element (sonde). This is accomplished by a magnetically modulated pickup (MMP), whose output voltage, proportional to the external field's intensity along the pickup axis, is itself one of the harmonics of the excitation current. This signal

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Measuring the intensity (Cont.)

S/552/60/000/027/008/008
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complete automation of measuring operations, and possibly make telemetering feasible, has been experimentally tested in a model device for measuring magnetic susceptibility and electrical conductivity of specimens. The design and electric parameters of the model are given, and results of tests of threshold intensity and of the system's sensitivity and zero-point stability are summarized. There are 5 figures and 1 table. There is one English-language reference, which reads as follows: Guelke, R. A., "Geophysical Prospecting Instruments Using Alternating Current of Audio Frequency", I. St. Instr., v. 22, no. 8, 1945.

Card 3/3

MIKHAYLOVSKIY, Vladimir Nikolayevich; SVENSON, Aleksey Nikolayevich;
POLYANSKAYA, L.O., red.; MATUSEVICH, S.M., tekhn. red.

[Electronic commutators] Elektronnye kommutatory. Kiev, Gos.
izd-vo tekhn. lit-ry, 1961. 138 p. (MIRA 14:10)
(Commutation (Electricity)) (Switching theory)

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9.6130 (1121)

AUTHORS: Ye.A. Andriyevskiy, and V.N. Mikhaylovskiy

TITLE: Certain problems of temperature compensation of magnetometers with magneto modulation transmitters and compensating permanent magnets

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut mashynoznavstva i avtomatyka, L'viv. Avtomaticheskyy kontrol' i izmeritel'naya tekhnika. No. 5, Kiev, 1961, 78 - 87

TEXT: The authors describe two methods of magnetometer temperature compensation. One of the causes of the variation of magnetic field intensity of the permanent magnet which produces the required reference field in the magnetometer, is the ambient temperature fluctuation which affects the magnetic moment of the compensating magnet and its distance from the transmitter. The authors give an expression for the mean intensity of the magnet of a given configuration and derive expression

f

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$$\alpha_{inst} = \alpha_M - 3\alpha_r - 4 \left(\frac{4r_0^2}{lg_0^2} - 1 \right)^{-1} (\alpha_r - \alpha_1), \quad (2)$$

for the temperature coefficient of the instrument, where: α_{inst} - temperature coefficient of the instrument, α_M - temperature coefficient of the compensating magnet; α_r and α_1 - temperature coefficients of linear expansion of the instrument support and transmitter bars respectively; r_0 - distance between magnet and transmitter center; lg_0 - length of transmitter bars. In order that the field intensity should remain unaffected by temperature either the above expression must equal zero or α_M , α_r and α_1 must equal zero. Certain magnets with appropriate shape have positive temperature coefficients and, therefore, they are suitable for this application since with the proper choice of magnet the temperature effect on the field intensity can be eliminated. The compensation obtained by

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this method is not always complete and, therefore, a supplementary temperature compensation may be required. The method of calculating the permanent magnet parameters based on this principle is fully described. Another method of temperature compensation is based on thermomagnetic compensation, whereby thermomagnetic shunts are used to eliminate the temperature coefficient of the compensating magnet. In case of cylindrical magnets the shunts are in the form of rings fixed over the cylindrical magnet. In this case the expression for the temperature coefficient of the magnet with thermal shunts becomes

$$\alpha_{\text{inst}} = \alpha'_M - 3\alpha_r - 4 \left(\frac{4r_o^2}{1^2 g_o} - 1 \right)^{-1} (\alpha_r - \alpha_1) = 0. \quad (6)$$

It also follows that in order to obtain thermal compensation the following expression must be satisfied

$$\Delta\alpha_M = \alpha'_M - \alpha_M = -\alpha_{\text{inst}} \quad (7)$$

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This magnitude is used in calculating thermal compensation. The authors determined experimental relationships between the temperature coefficients of magnets and the dimensions of shunts. The shunts are made of the following alloy: 64.1 % Ni; 29.6 % Cu; 6.37 % Fe. They produce temperature compensation in the temperature range between - 20° C to 60° C. The method of calculating the shunt dimensions is described. It is based on empirical relationships given in graphical and tabulated form. In the authors' opinion the method of using magnets with positive temperature coefficient and supplementary compensation is preferable. The application of the above method to magnometers developed by the Institut Mashinovedeniya i automatiki AN USSR (Institute of the Science of Machines and Automation AS UkrSSR) resulted in the reduction of temperature error from 10 - 15 μ /°C to 0.5 - 1 μ /°C. There are 5 figures and 5 Soviet-bloc references

SUBMITTED: August 20, 1959

Card 4/4

MIKHAYLOVSKIY, V.N.; TSYKHAN, A.I.; SELASTEL'NIKOVA, E.A.

Designing a hydraulic turbotachometer. Avtom.kont. i izm.tekh.
no.5:159-164 '61. (MIRJ. 14:11)

(Tachometer)

9.6300

24844

S/103/61/022/008/013/015
D274/D302

9.2560

AUTHORS: Belen'kiy, Ya Ye and Mikhaylovskiy, V.N. (L'vov)

TITLE: Fast multi-channel transistor-distributor

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 8, 1961,
1117-1122

TEXT: The use of multi-phase multivibrators as distributors is advantageous both technically and economically. The operation is considered of a multi-phase self-triggering multivibrator, incorporating p-n-p transistors (Fig. 1). The distributor can be used as a commutator in multi-channel telemetering systems (in both reception and transmission); in master coders; as start-stopper; in digital- and pulse-code systems of remote control, and in general in pulse devices which require a pulse-sequence which is time-shifted. A comparison shows that multi-phase multivibrators are more stable than ordinary bi-stable multivibrators, by a factor of 2-3 approximately. Ya. B. Itskhoki (Ref. 5: Impul'snyye ustroystva (Pulse Devices) Izd-vo Sovetskoye radio, 1959). The steady-state

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Fast multi-channel...

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process of the multivibrator is described. The multivibrator can have many cascades. An initial positive pulse, applied to the base of the first transistor, closes it and opens the next transistor in the circuit: a series of pulses is generated the number of which equals the number of cascades. After the generation of the last pulse, the voltage at the base drops to zero, the first transistor is opened and the circuit becomes stable. The mathematical analysis of the operation of the distributor is based on a linear approximation of the open-triode characteristic, whereby the transistor scheme reduces to the tube scheme. The duration of the generated pulses, with the condition $r_k \ll r_e$, is given by

$$T = \tau \frac{k^2 a_2 (1 - a_1) + k [a_1 + a_2 (e - 1)] - 1}{k^2 a_2 + k a_2 (e - 2)} \quad (3)$$

where

$$\tau = r_{bc} \cdot k = \frac{\mu_T}{1 + \frac{r_k}{R_{iT} + r_e}}, \quad a_1 = e^{-\frac{1}{1+\lambda}}, \quad a_2 = e^{-\frac{2}{1+\lambda}}$$

λ is found by experiment; it varies between 0.2 - 0.5; μ_T is the Card 2/4

Fast multi-channel...

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D274/D302

amplification factor, and R_{it} - the inner resistance of the equivalent circuit. The formula shows that by varying the parameters of the RC-circuit it is possible to alter the duration of the pulses; hence it is possible to obtain a non-symmetric multi-phase multivibrator with pulses of pre-assigned duration. The multivibrator can be readily synchronized by marker pulses in the non-triggered state and by sinusoidal and pulse voltages in the triggered state. The synchronizing voltage U_c is applied to the common emitter circuit (see Fig. 1); this makes it possible to fix the duration of each pulse by means of the external voltage. In the multiphase multivibrator, the pulses are of more stable duration (as compared to ordinary multivibrators); this is due to a larger angle between the control voltages. With regard to temperature stability; taking optimum parameters of the multivibrator, the error in pulse duration is of the order of 10% for a temperature range of +15 to +55°C. Such temperature stability is not always satisfactory in practice; therefore a method is described which improves it by stabilizing the frequency of the multivibrator by introducing a selective circuit into the common emitter circuit. There are 3 figures, 1 table

Card 3/4

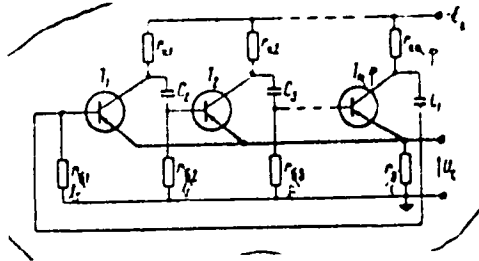
Fast multi-channel...

S/103/61/022/008/013/015
D274/D302

and 9 Soviet-bloc references.

SUBMITTED: July 21, 1960

Fig. 1
Diagram of multivibrator



Card 4/4

DRAGAN, Ya.P. [Drahan, IA.P.]; MIKHAYLOVSKIY, V.N. [Mykhailovs'kyi, V.M.]

A case of the amplitude error of discretion. Dop. AN URSR
no.12:1578-1582 '61. (MIRA 16:11)

1. Institut mashinovedeniya i avtomatiki AN UkrSSR.
2. Chlenkorrespondent AN UkrSSR (for Mikhaylovskiy).

SHUMILOVSKIY, N.N., akademik, otv. red.; MIKHAYLOVSKIY, V.N., zam. otv. red.; GLAUBERMAN, A.Ye., doktor fiz.-mat. nauk, red.; SVENSON, A.H., kand. tekhn. nauk, red.; BEREZINSKIY, V.P., inzh., red.; SABANEYEV, R.D., nauchnyy red.; LIBERMAN, T.R., tekhn. red.

[Instruments for geophysical studies of wells by radioactive methods; transactions] Pribory dlia geofizicheskikh issledovaniy skvazhin radioaktivnymi metodami; trudy. Kiev, Izd-vo Akad. nauk USSR, 1962. 190 p. (MIRA 15:9)

1. Vsesoyuznyy seminar po primeneniyu radioaktivnykh izotopov v izmeritel'noy tekhnike, L'vov, 1960. 2 Akademiya nauk Kirgizskoy SSR (for Shumilovskiy). 3. Chlen-korrespondent Akademii nauk Ukrainskoy SSR (for Mikhaylovskiy)
(Radioactive prospecting- Equipment and supplies)

KURSIK, S.A.; LUTSIV-SHUMSKIY, L.F.; MIKHAYLOVSKIY, V.N.

Air pressure losses in the compensators during the drilling of
wells. Avtom.kont.i izm.tekh. no.6:184-191 '62.

(MIRA 16:2)

(Oil well drilling)

KREYN, Ye.D.; MIKHAYLOVSKIY, V.N.; TYNCHENKO, N.P.

Interference rejection of the frequency selection networks of remote
control devices for distributed objects. Vop. pered. inform. 1
116-124 '62. (MIRA 10:0)

(Remote control)

MIKHAYLOVSKIY, V.N.

Operating frequency band and information parameter of the signal
of the hydraulic tachometer of a turbine drill telemetering system.
Vop. pered. inform. 1:133-135 '62. (MIRA 16:6)
(Telemetering)

KURSI, S.A.; LUTSIV-SHUMSKIY, L.F.; MIKHAYLOVSKIY, V.N.

Concerning the form of a pressure pulse when covering a pipeline
with a gate. Avtom.kont.i izm.tekh. no.6:192-195 '62.

(MIRA 16:2)

(Pipelines)

(Hydrodynamics)

DRAGAN, Ya.P.; DUBROV, Ya.A.; MIKHAYLOVSKIY, V.N.

Some general properties of linear converters. Vop. pered. inform.
2:5-28 '63.

Analysis of linear systems and nonstationary processes.
Ibid.:29-43 (MIRA 16:12)

MIKHAYLOVSKIY, V.N.; PERVUSHIN, V.N.

Photoelectric storage method for improving noise control.

Vop. pered. inform. 2:129-133 '63.

(MIRA 16.14)

BRAGIN, Aleksey Alekseyevich; MIKHAYLOVSKIY, Vladimir Nikolayevich;
SABANEYEV, R.D., red.; RAKHLINA, M.P., ~~tekhn. red.~~

[Telemetering of radioactive radiations] Teleizmerenie ra-
dioaktivnykh izlucheni. Kiev, Izd-vo AN USSR, 1963. 153 p.
(MIRA 17:3)

BLAZHKEVICH, B.I., kand. tekhn. nauk, otv. red.; MIKHAYLOVSKIY,
V.N., red.; SVENSON, A.N., kand. tekhn. nauk, red.;
MIZYUK, L.Ya., kand. tekhn. nauk, red.; KUZOVKIN, S.K.,
glav. inzh., red.; BELICHENKO, A.I., ved.inzh., red.;
SABANEYEV, R.D., red.izd-va; RAKILINA, N.P., tekhn.red.

[Apparatus for electric prospecting by air; its design
and operation] Apparatura aereoelktorazvedki; proekti-
rovanie i ekspluatatsiia. Kiev, Izd-vo AN Ukr.SSR,
1963. 155 p. (MIRA 17:2)

1. Akademiya nauk URSR. Kiev. Instytut mashynoznavstva
ta avtomatyky, Lvov. 2. Chlen-korrespondent AN Ukr. SSR
(for Mikhaylovskiy).

ACCESSION NR: AT4001243

S/2900/63/000/002/0005/0028

AUTHORS: Dragan, Ya. P.; Dubrov, Ya. A.; Mikhaylovskiy, V. N.

TITLE: Certain general properties of linear transformations

SOURCE: AN UkrSSR. Insty*tut mashy*noznavsta i avtomaty*ky*. L'viv. Voprosy* peredachi informatsii, no. 2, 1963, 5-28

TOPIC TAGS: linear transformation, linear information system, non-stationary processes, Sturm Liouville differential operator, operator expansion in eigenvalue

ABSTRACT: The purpose of the article is the derivation of a general mathematical formalism for the analysis of linear systems with variable parameters in response to nonstationary signals. A generalized shift operation corresponding to a second-order differential equation is introduced and its properties described. Expansions in eigenfunctions of a second-order operator are then treated and various general properties of the transformations defined by such an operator presented. It is claimed that the general properties are derived here for the first time, since there is no systematic de-

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ACCESSION NR: AT4001243

velopment of the theory of general spectral expansions in Hilbert space. The application of this formalism to analysis of linear information systems and other stationary processes will be treated in future articles. Orig. art. has: 36 formulas.

ASSOCIATION: Insty*tut mashy*noznavstva i avtomaty*ky AN UkrSSR
(Institute of Science of Machines and Automation, AN UkrSSR)

SUBMITTED: 20Feb62

DATE ACQ: 03Dec63

ENCL: 00

SUB CODE: CO

NO REF SOV: 0016

OTHER: 0023

Card 2/2

MIKHAYLOVSKIY, V.M. [Mikhailovs'kiy, V.M.]; PERVUSHIN, V.N. [Pervushin, V.M.];
TSYKHAN, A.I. [TSyghan, O.I.]

Acoustic methods of mine geophysical prospecting. Dep. AN
URSR no.6:757-760 '63 (MIRA 1:1)

1. Institut mashinovedeniya i avtomatiki AN UkrSSR. 1. Correspondent AN UkrSSR (for Mikhaylovskiy).

AFANASENKO, M.P. (L'vov); BERKMAN, R.Ya. (L'vov); MIKHAYLOVSKIY, V.N.
[Mykhailovs'kyi, V.M.] (L'vov); SPEKTOR, Yu.I. (L'vov)

Special features of the operation of magnetic modulator transducers
with output on higher even harmonics. Avtomatyka 8 no.3:9-15
'63. (MIRA 16:7)

(Transducers)

MIKHAYLOVSKIY, V. N.

AID Nr. 974-12 22 May

CONFERENCE ON MAGNETIC ELEMENTS FOR AUTOMATION, TELE-
MECHANICS, MEASURING AND COMPUTER ENGINEERING (USSR)

Mikhaylovskiy, V. N. Akademiya nauk UkrSSR. Dopovidi, no. 3, 1963,
418. S/021/63/000/003/021/022

From 10 to 16 September 1962, an All-Union scientific and technical conference was held in L'vov on magnetic elements used in automatic control, measuring, telemechanics, and computer engineering. Over 500 representatives from 163 scientific research institutes, schools of higher education, and industrial establishments from 32 cities in the Soviet Union attended. The main task of the conference was to review new results in the field of magnetic elements, i. e., development of a theory, methods of design and manufacture, and applications. The conference heard 120 papers dealing with the following topics: magnetic amplifiers and modulators, including magnetic-modulation pickups;

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AID Nr. 974-12 22 May

CONFERENCE ON MAGNETIC ELEMENTS (Cont'd)

8/021/63/000/003/021/022

magnetic elements of digital computers; magnetic memory devices and problems of magnetic polarity reversal; magnetic materials and cores; and magnetic converters, including frequency converters. Special attention was given to improving the metrological characteristics of magnetic-modulation pickups, modulators, amplifiers, and converters, and to the economics and reliability of magnetic elements. Parametrons, elements with perforated cores, cryotrons and variconds were also discussed. The conference was sponsored by the Committee on Contactless Magnetic Elements, Academy of Sciences UkrSSR, the Scientific Instrumentation Section of the State Committee for Coordination of Scientific Research, the Institute of Machine Building and Automation of the Academy of Sciences UkrSSR, and the Institute of Automation and Telemechanics.

[AS]

Card 2/2

L 16625-65 EEO-2/EWT(1)/EEC-4/EED-2/EWA(h) Pn-4/Peb/P1-4 RAEM(1)
ACCESSION NR: AT4049215 P/2519/64/000/005/0518/0522

AUTHOR: Mikhaylovskiy, V. N. (L'vov); Pervushin, V. N. (L'vov) 231

TITLE: A nonlinear photoelectric method for increasing immunity to interference

SOURCE: Polska Akademia Nauk. Instytut Podstawowych Problemow Techniki. Zagadnienia drgan nieliniowych, no. 5, 1964. Druga Konferencja Drgan Nieliniowych (Second Conference on Non-linear Vibrations), Warsaw, Sept. 18-21, 1962, 518-522

TOPIC TAGS: interference immunity, weak signal reception, production noise, ²⁵ magnophone, loop oscillograph, emulsion photosensitivity, cathode ray tube, Talbot law, geoaoustics

ABSTRACT: A geoaoustic investigation was made into the possibility of identifying and recording a weak signal, reflected from a discontinuity, against the background of intense production noises. The signal-storage method was selected as the simplest and most practical for the purpose of recording and eventual interpretation of signals received under varying conditions of interference. The basic characteristics of the signal-transformation process (usable signal plus interference) should be taken into account when determining the best signal volume required for obtaining a fair amount of information. Mathematical analysis shows that the relationship between the optical density of the film blackening and the Card 1/2

L 16625-65

ACCESSION NR: AT4049215

amount of light acting on the film coating determines the major characteristics of the photoemulsion, such as photosensitivity, contrast and the width of the coating. The brightness distribution on the screen of a cathode ray tube must be determined before a practical analysis of the above-mentioned film method can be undertaken. The luminosity distribution along the vertical screen axis, according to the Talbot Law, will coincide with the probable distribution of the signal under investigation. Orig. art. has: 5 formulas and 3 figures.

ASSOCIATION: Institut Mashinovedeniya i Avtomatiki, Akademiya Nauk Ukr. SSR, L'vov (Institute of Machine Technology and Automation, Ukrainian Academy of Sciences)

SUBMITTED: 21Sep62

ENCL: 00

SUB CODE: EC, ES

NO REF SOV: 000

OTHER: 000

Card 2/2

MIKHAYLOVSKIY, V.N. [Mykhailovs'kyi, V.N.]

All-Union Scientific and Technological Conference on Magnetic
Elements of Automation, Telemechanics, Measuring and Calculating
Techniques. Dop. AN URSS no.3:418 '63. (MIRA 17:10)

MIZYUK, Leonid Yakovlevich; VELICHKO, Yu.T., prof., retsenzent;
MIKHAYLOVSKIY, V.N., otv. red.; YEVSEYENKO-MISYURENKO,
I.V., red.

[Input converters for measuring the intensity of low-
frequency magnetic fields] Vkhodnye preobrazovateli dlia
izmereniia napriazhennosti nizkochastotnykh magnitnykh
polei. Kiev, Naukova dumka, 1964. 166 p. (MIRA 17:12)

1. Chlen-korrespondent AN Ukr.SSR (for Mikhaylovskiy).

L 22122-65 EWT(d)/T/EWP(1) S8D/AFWL/ASDA-5/AFMD(p)/AFETR/ESDC/ESDD(p)/ESDG(a)
ESDT IJP(e) 3/3120/64/000/000/0007/0020
ACCESSION NR: AT5001683

AUTHOR: Dragan, Ya. P. (Senior engineer); Dubrov, Ya. A.; Mikhaylovskiy, V. N.
(Corresponding member AN UkrSSR)

TITLE: The spectral theory of certain classes of random processes 16

SOURCE: AN UkrSSR, Fiziko-mekhanicheskiy institut, Voprosy peredachi in-
formatsii, no. 3, 1964, 7-20

TOPIC TAGS: information transfer, communication theory, random process, time
variant system, eigenfunction expansion, spectral theory, word analysis

ABSTRACT: The uniform transfer of information is best achieved by means of
time invariant transmitting devices. Consequently, in time variant systems,
harmonic oscillations and uniform pulse sequences are not the most efficient
carriers of information. The authors therefore develop a general theory of
spectral representation (eigenfunction expansion) which is suitable for the
discussions of problems peculiar to the time variant systems. The different
qualities of different instants of time are accounted for by a weight function
 $\lambda(t)$. The properties of nonstationary events are determined by the properties
of orthogonalized (relative to $\lambda(t)$ over the $(-\infty, \infty)$ Rt axis) coordinate
functions which are viewed as being eigenfunctions of the Karleman type or the

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L 22122-65

ACCESSION NR: AT5001683

ordinary differential operator L. Various theorems developed in the paper confirm the assumption (see, e. g., Ya. P. Dragan, Ya. O. Dubrov, V. M. Mikhaylovskiy, DAN URSS, no. 9, 1962) that within the time variant linear systems the information carriers are represented by their respective eigenfunctions. The carrier function must agree in an essential way with the temporal behavior of the information system if one has to achieve an optimum information transfer. The paper concludes with a brief discussion of word analysis by the human ear and quotes the results of L. Dolansky (IRE Trans. on audio, vol. AU-8, no. 6, 1960). Orig. art. has: 70 formulas.

ASSOCIATION: None

SUBMITTED: 00

NO REF SOV: 011

ENCL: 00

OTHER: 010

SUB CODE: DP

Card 2/2

L 21787-65 EEO-2/EWT(d)/EEC-4/EEB-2 Pac-4 ESB(gs)/ESD(t)/ASD(a)-5/SSD/
AFWL/AFMD(p)/AFETR/ESD(o)/ESD(dp)
ACCESSION NR: AT5001684 8/3120/64/000/003/0028/0040

AUTHOR: Dragan, Ya. P. (Senior engineer); Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR) B+1

TITLE: The efficiency of two-parameter phase-amplitude-pulse modulation (PAPM)

SOURCE: AN UkrSSR. Fiziko-mekhanicheskiy institut. Voprosy peredachi informatsii, no. 3, 1964, 28-40

TOPIC TAGS: communication theory, transmission efficiency, frequency pulse modulation, amplitude pulse modulation

ABSTRACT: The basic problem encountered in the design of circuitry earmarked for the transmission of information is to increase the efficiency while maintaining a reasonable degree of reliability and accuracy. The present investigation studied the increase in efficiency of a limited bandwidth channel obtained by modulating a regular square wave sequence over amplitude and phase. The system is assumed time-invariant and the totality of input signals having a given probability distribution are viewed as a stationary random (in a wider sense) process expressible by

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ACCESSION NR: AT5001684

$$x(t, \omega) = m_s + \int_{-\infty}^{+\infty} e^{i\lambda t} dZ(\lambda, \omega)$$

where $Z(\lambda, \omega)$ represents the process having uncorrelated increments for which $E |dZ(\lambda, \omega)|^2 = dS(\lambda)$, and $S(\lambda)$ is its spectral function. The analytical description of the square wave is followed by that of the amplitude-pulse modulation and code-pulse modulation, an analysis of errors in phase (PPM) and amplitude (APM) pulse modulation, and a comparative efficiency estimate of the APM + PPM and PAM modulations. Orig. art. has: 56 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: EC, DP

NO REF SOV: 009

OTHER: 004

Card 2/2

L 21288-65 SSD/ASD(a)-5/AFWL/AFMD(p)/AFETR/ESD(o)/ESD(dp)/ESD(gs)/ESD(t)
ACCESSION NR: AT5001685 S/3120/64/090/003/0041/0046

AUTHOR: Dubrov, Ya. A.; Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR)

TITLE: Determining the efficiency of certain codes

SOURCE: AN UkrSSR. Fiziko-mekhanicheskiy institut. Voprosy peredachi informat-
sii, no. 3, 1964, 41-46

TOPIC TAGS: communication theory, code efficiency, remote control, remote
measurement

ABSTRACT: It is difficult to compare all the various efficiency analyses (see
e.g., A. Feinstein, Foundations of information theory; R. R. Vasil'yev, G. A.
Shastova, Peredacha telemekhanicheskoy informatsii (Transmission of telemechanical
information), Gosenergoizdat, 1960) due to differences in approach and the
assumed allowed and imposed conditions. The present article compares the
efficiency of codes used in practice during the very important remote measure-
ments and control operations when the alphabet of the code (elements of informa-
tion, commands) N and the mean probability P_{pr} of the correct reception of the
code letter are given. The problem consists of finding, under the above
conditions, the most effective code and its parameters. The efficiency of the
code is measured by the quantity

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L 21789-65

ACCESSION NR: AT5001685

$$\mu = \frac{I - \Delta I}{V} = \frac{I_r}{V}$$

0

where I and ΔI are the amounts of information supplied to the channel's input and lost within the channel, respectively, during the time T ; V is the volume of the signal (channel capacity), and I_r is the amount of information at the receiving end of the channel. Uniform stationary processes and uniform codes are investigated, covering the unprotected code, code with repetitions, code with a constant number of pulses, code with an even number of pulses, and Hamming's code with the correction of single errors. The results show that each code has its own condition for maximum μ , that for $N = 4$ the unprotected code is the most efficient, and that the code efficiency depends on the number of symbols contained in the code. "The authors thank M. M. Korostil' and L. P. Lomova for their help during the numerical calculations." Orig. art. has: 11 formulas and 2 tables.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: DP

NO REF SOV: 010

OTHER: 003

Card 2/2

ACCESSION NR: AT5001687

S/3120/64/000/003/0077/0084

B

AUTHOR: Belen'kiy, Ya. Ye.; Dobrzhanskiy, R. I.; Olesin, V. R.; Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR)

TITLE: An estimate of the minimum switching voltage and the maximum number of channels of a matrix semiconductor commutator

SOURCE: AN UkrSSR. Fiziko-mekhanicheskiy institut. Voprosy peredachi informatsii, no. 3, 1964, 77-84

TOPIC TAGS: commutator, matrix commutator, switching voltage, commutator channel number, operating stability, noise level, remote control, contactless distributor

ABSTRACT: The contactless distributors of multichannel systems widely used for automation and remote control use the principle of matrix addition of pulse voltages. The authors investigated the matrix circuits of contactless distributors utilizing polyphasic multivibrators (Ya. Ye. Belen'kiy, V. N. Mikhaylovskiy, Avtomatika i telemekhanika, vol. XXII, no. 8, 1961). The determination of the minimum switching voltage is obtained from the calculations of the commutator circuit noises. These calculations use the concept of noise temperature (A. P. Belousov,

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ACCESSION NR: AT5001687

Raschet koeffitsiyents shuma radiopriyemnikov Voyengiz, M., 1959). Calculations also yield formulas which can be used for the calculation (for a given set of operating parameters) of the maximum number of channels (outputs) of the above-mentioned matrix circuit. Introducing the usual range of values for the operating parameters, the total number of commutator channels turns out to be between 16 and 4900. An experimental check was carried out on a 63-channel transistorized commutator model. Circuit noises did not exceed 1-1.5 μ v, and a 3 μ v applied signal could be reliably detected at the amplified output by a phase detector. The signal frequency was 1500 c/sec. Heating up to 110C raised the noise level by 10-15%. The commutator was unaffected by power supply voltage variations up to \pm 15%. Orig. art. has: 16 formulas and 3 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: EC, IE

NO REF SOV: 005

OTHER: 001

2/2
Card

L 22125-65 EWT(1)/EWT(m)/T AFWL/SSD/AFMDC/ESDG(s) LJP(c) JW
ACCESSION NR: AT 5001691 S/3120/64/000/OC3/0107/0117

3

AUTHOR: Bragin, A. A., Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR);
Fedoriv, R. F.

TITLE: Two-channel radiometer with thermally stabilized scintillation counters

SOURCE: AN UkrSSR. Fiziko-mekhanicheskiy institut. Voprosy peredachi informatsii,
no. 3, 1964, 107-117

TOPIC TAGS: radiometer, scintillation counter, underground radiation measurement,
remote measurement, radioactive mineral prospecting, dead time, sodium iodide scin-
tillator

ABSTRACT: The use of scintillation counters for drill-hole investigating devices
is usually prevented by the low operating temperatures of such counters. In view
of the operating conditions and the admissible dimensions for instrumentation with-
in drill-holes, the authors concluded that the introduction of dewar-type thermo-
stats represents the only possible approach. The thermally stabilized two-channel
radiometer described in the paper also takes into account the fact that the long-
est "dead time" appears in the first element of the measuring circuit. Consequent-
ly, the device contains stable discriminators having a "dead time" longer than the
time needed for the transfer and recording of the pulse. This means that slight

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ACCESSION NR: AT5001691

instabilities in the subsequent circuit elements (such as variations in pulse length in the connecting cables) cannot affect the counting accuracy of the instrument. The description of the thermostatically controlled NaI (Tl) counter is followed by circuit diagrams and data concerning the underground and surface sections of the radiometer. Tests showed that a $\pm 10\%$ variation in the power supply caused less than $\pm 0.5\%$ variations in radiometer readings when subjected to Co^{60} gamma rays. The interaction between the two channels at counts of 33,000 and 157,000/min., respectively, was less than 0.5%. The incorporation of a correcting integrator reduced the nonlinearity of the load characteristics to less than 1%. During a 4-hour operation at 120C, the variations in radiometer output remained below $\pm 0.8\%$. The sensitivity of the device was 600-700 counts/min. per microcentgen/hour. Orig. art. has: 11 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NO REF SOV: 002

OTHER: 000

Card 2/2

MIKHAY LOVSKIY, V.N., etc. red.; AFANASENKO, M.P., red.; BERKMAN, N.Ya., kand. tekhn. nauk, red.; GLAZHEVICH, S.I., kand. tekhn. nauk, red.; ILITSKIY, I.A., kand. tekhn. nauk, red.; KOZENBLAT, N.A., kand. tekhn. nauk, red.; REMENNIK, T.K., red.; KOSNITSER, D.M., red.

[Magnetic elements of automatic control, remote control, measurement techniques, and computer engineering; transactions] Magnitnye elementy avtomatiki, telemekhaniki, izmeritel'noi i vychislitel'noi tekhniki; trudy. Kiev, Naukova dumka, 1964. 115 p.

1. Vsesoyuznoye nauchno-tekhnicheskoye soveshchaniye po magnitnym elementam avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki, Lvov, 1962. 1. 11 člen-korrespondent AN Ukr.SSR (for Mikhaylovskiy).

L 39072-66 EWT(4)/FSS-2 GD

ACC NR: AT6021045

SOURCE CODE: UR/0000/65/000/000/0018/0045

AUTHOR: Dragan, Ya. P. (L'vov); Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR; L'vov)

ORG: none

TITLE: On the possibilities of increasing transmission rate of discrete information through a limited band pass channel

SOURCE: AN UkrSSR. Metody otbora i peredachi informatsii (Methods of selecting and transferring information). Kiev, Naukova dumka, 1965, 18-45

TOPIC TAGS: information processing, data transmission, ^{system} pulse code modulation

ABSTRACT: The possibility of increasing the transmission rate of discrete information through a limited band pass channel is investigated, by trying out various kinds of codes under two performance criteria. Biorthogonal codes with constant and variable rates were considered. The performance criteria were: (1) the capacity (C) of a discrete channel (according to a basic theorem of Shannon)

$$C = \lim_{T \rightarrow \infty} \frac{\log N(T)}{T}$$

where $N(T)$ is the number of allowed signals of duration T ; (2) the specific capacity

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L 39073-66 EWT(1) G" (G)
ACC NR: AT6021052

SOURCE CODE: UR/0000/65/000/000/0169/0179

AUTHOR: Mikhaylovskiy, V. N. (Corresponding member AN UkrSSR; L'vov); Pervusnin, V. N. (L'vov)

ORG: none

TITLE: Information selection methods in geophysical mine prospecting by the sounding method

SOURCE: AN UkrSSR. Metody otbora i peredachi informatsii (Methods of selecting and transferring information). Kiev, Naukova dumka, 1965, 169-179

TOPIC TAGS: seismic prospecting, error measurement

ABSTRACT: The formulation of optimality criteria in applying the sounding method in geophysical exploration is considered. The optimality criterion is generally formulated as the ratio between the quantity of information obtained and the expenditures incurred in the process. The expenditures refer to labor, energy and equipment (number of transmitters and receivers used and the cost of each). The main problem is the formulation of the quantity of information--a factor of the geometry of the region explored, inhomogeneities inside the region, allocation of equipment and directions of sounding. A general development of the formula of the quantity of information is given. Orig. art. has: 8 formulas, 4 figures.

SUB CODE: 1208/

SUBM DATE: 20Nov65/

ORIG REF: 007

Card 1/1 /LLP

ACC NR: AT6020467

(A)

SOURCE CODE: UR/0000/65/000/000/0009/0019

AUTHOR: Kul'ko, V. F. (L'vov); Mikhaylovskiy, V. N. (L'vov)

ORG: none

TITLE: The electromagnetic field of a straight, infinitely long conducting cable buried in one of the inner strata of a multi-layered medium

SOURCE: AN UkrSSR. Teoriya i elementy sistem otbora geofizicheskoy informatsii (Theory and elements of systems for selecting geophysical information). Kiev, Naukova dumka, 1965, 9-19

TOPIC TAGS: electromagnetic field, magnetic field measurement

ABSTRACT: The authors derive expressions for the electric and magnetic field at any point of a given layer (see Fig. 1) for two cases: 1) when all strata are nonconductors, and 2) when the stratum containing the cable is a better conductor than the other strata. Orig. art. has: 1 figure, 45 formulas.

Card 1/2

ACC NR: A78020467

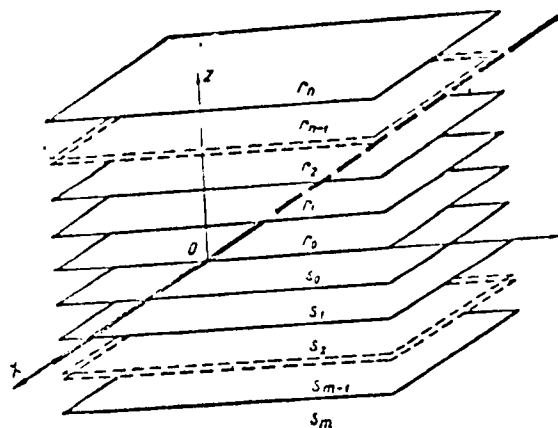


Fig. 1.

SUB CODE: 20 /

SUBM DATE: 10Nov65/

ORIG REF: 002

Card 2/2

ACC NR: AT6020468

(A)

SOURCE CODE: UR/0000/65/000/000/0020/0032

AUTHOR: KUL'ko, V. F. (L'vov); Mikhalovskiy, V. N. (L'vov)

ORG: none

TITLE: The electromagnetic field of a horizontal dipole embedded in an interior layer of a multi-layered conducting medium

SOURCE: AN UkrSSR. Teoriya i elementy sistem otbora geofizicheskoy informatsii (Theory and elements of systems for selecting geophysical information). Kiev, Naukova dumka, 1965, 20-32

TOPIC TAGS: electromagnetic field, dipole interaction, magnetic field measurement

ABSTRACT: The electric and magnetic fields in each layer of the system in Fig. 1 are calculated. The method of solution consists of solving a system of $4n + 4m$ simultaneous linear equations satisfying the boundary conditions. Orig. art. has: 40 formulas, 1 figure.

Card 1/2

ACC NR: A76020468

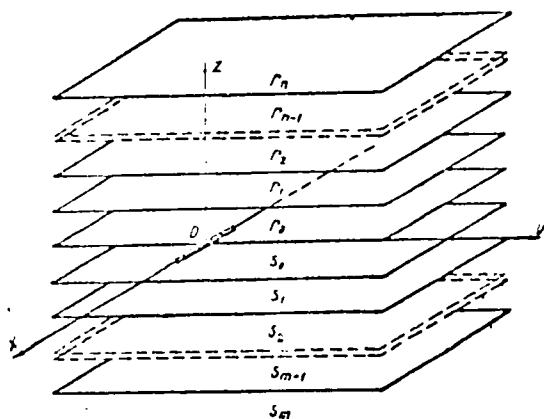


Fig. 1.

SUB CODE: 20 /

SUBM DATE: 20Nov65/

ORIG REF: 002

Card 2/2

ACC NR: AT7004335 (A) SOURCE CODE: UR/0000/66/000/000/0172/0182

AUTHOR: Voychishin, K. S. (L'vov); Mikhaylovskiy, V. N. (L'vov)

ORG: none

TITLE: Carriers of bio-meteorological information

SOURCE: AN UkrSSR. Metody i sredstva preobrazovaniya informatsii (Methods and means of information conversion). Kiev, Naukova dumka, 1966, 172-182

TOPIC TAGS: meteorologic observation, biologic research

ABSTRACT: Based on 17 Soviet (1948-64) and 3 Western (1959-63) published sources, a brief review is presented of the nature and characteristics of carriers and propagation channels of meteorological information received by living organisms; only little reliable data is available. Activity of Misgurnus fishes (Cobitidae) in two 400 x 150 x 400-mm aquaria was observed at a laboratory of the

Card 1/2

ACC NR: AT7004335

Physico-Mechanical Institute, AN UkrSSR, near L'vov during Aug-Oct 64; three fishes in each aquarium were kept under observation, and their activity was rated (7 times a day) by a 4-point system (0, 1, 2, 3). A clear correlation between the fish activity and the precipitation within 2 days was established. Experiments repeated in 1965 at two locations (in and near L'vov) corroborated the above result. Details of the experiments and correlation-factor curves are supplied. Orig. art. has: 2 figures.

SUB CODE: 04, 06 / SUBM DATE: 14Jul66 / ORIG REF: 018 / OTH REF: 002

Card 2/2

ACC NR: AT6032744

SOURCE CODE: UR/0000/66/000/000/0148/0153

AUTHOR: Mikhaylovskiy, V. N.; Pervushin, V. N.

ORG: none

TITLE: Possibilities of increasing the distances at which geoacoustic methods are useful in finding nonhomogeneities in rocks in the presence of intense noise

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'tra-zvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 148-153

TOPIC TAGS: acoustic prospecting, ore deposit, ~~mining~~, acoustic noise, seismic method, surface wave, free oscillation, acoustic receiver, acoustic shadow, seismic prospecting, ~~MINING ENGINEERING~~

ABSTRACT: The possible methods of extending the distances at which acoustic methods are useful in determining the shape and location of inhomogeneities in rocks such as ore deposits are discussed. The main obstacle in increasing the distance at which acoustic methods are effective is the presence of noise. Measurements made in a mine in Krivoy Rog show that the industrial noise generated in the mine has a range of frequencies of 12—5 kc. The authors extract the useful signal from noise by storing the signal on a cathode-ray tube. The second type of noise is surface waves propagating along the mine faces surfaces. When highly sensitive electrodynamic re-

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ACC NR: AT6032744

ceivers are used, the intense surface waves generate long-period free oscillations in the movable part of the receiver. In order not to decrease the sensitivity, the system is damped only during the initial period when the surface waves are registered and before the arrival of reflected waves. It is pointed out that the method of inverse probability is effective in determining the acoustic shadow in the presence of noise. Even the simplest approximation of the shape of the shadow makes it possible to determine the shadow's boundaries using just a few trial values for its width, and thus to obtain the shape of the ore deposit. Orig. art. has: 4 figures and 2 formulas.

SUB CODE: 08/ SUBM DATE: 28Mar66/ ORIG REF: 009

Card 2/2

DRAGAN, Ya.P.; MIKHAYLOVSKIY, V.N.

Amplitude error of time discrete signals. Vop. pered. inform. 1:
7-24 '62. (MIRA 16:6)

(Information theory)

MIKHAYLOVSKIY, V. S.

"Investigation of the Dynamics of the Cerebrospinal Fluid in the Diagnosis of Brain Tumors." Cand Med Sci, Sci-Res Inst of Neurosurgery, Ministry of Health Ukrainian SSR, Kiev, 1953. (RZhBiol, NO 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

MIKHAYLOVSKIY, V.S.

Diagnostic significance of investigation of dynamics of
the cerebrospinal fluid in double puncture; ventricular
and cerebrospinal. Vopr. neurokhir. 17 no.6:28-31
Nov.-Dec. 1953. (OLML 25:5)

1. Of the Institute of Neurosurgery of the Ministry of
Public Health Ukrainian SSR.

GLUSHKOVA, I.S.; MIKHAYLOVSKIY, V.S.; FAYNZIL'BER, Ya.I.

Clinical aspects, diagnosis, and therapy of severe cerebrocranial injuries. Vop.neirokhir. 19 no.2:15-22 Mr-Apr '55. (MLRA 8:7)

1. Iz Instituta neyrokhirurgii Ministerstva zdravookhraneniya USSR.
(HEAD, wounds and injuries,
clin. aspects, diag. & ther.)
(WOUNDS AND INJURIES,
head, clin. aspects, diag. & ther.)

SERGIYENKO, T.M.; MIKHAYLOVSKIY, V.S.

Dynamics of the cerebrospinal fluid in cerebrocranial injury.
Vop.neirokhir. 19 no.2:33-39 Mr-Apr '55. (MLRA 8:7)

1. Iz Instituta neyrokhirurgii Ministerstva zdravookhraneniya.
(~~CEREBROSPINAL FLUID~~, in various diseases,
head inj.)
(HEAD, wounds and injuries,
CSF in)

SERGIYENKO, T.M.; MIKHAYLOVSKIY, V.S.

Technic of kymographic registration of fluctuations of the cerebrospinal fluid. Vop.neirokhir.19 no.4;18-20 J1-Ag '55 (MLRA 8:10)

1. Iz Instituta neyrokhirurgii Ministersta zdavookhraneniya USSR.
(KYMOGRAPHY,
of CSF dynamics)
(CEREBROSPINAL FLUID,
dynamics, kymography)

BROTMAN, M.K. (Kiyev, Krasnaya ploshchad', d.10, kv.6); MIKHAYLOVSKIY, V.S.;
PEDACHENKO, G.A.

Against a prejudiced approach to the problem of intracranial
pressure in concealed brain injuries. Nov.khir.arkh. no.3:24-29
My-Je '57. (MLRA 10:8)

1. Institut neyrokhirurgii Ministerstva zdavookhraneniya USSR
(nauchnyy rukovoditel' - sael. deyatel' nauki professor A.I.
Arutyunov)

(BRAIN-WOUNDS AND INJURIES)
(CEREBROSPINAL FLUID)

MIKHAYLOVSKIY, V.S. [Mykhailovs'kyi, V.S.]

Characteristics of the pain syndrome in *gynecological* practice. *Ped.,*
akush. i gin. 20 no.3:60-63 '58. (MIRA 13:1)

1. Ukrainskiy institut neyrokhirurgii (direktor i nauchnyy rukovoditel' -
zasluzhennyy deyatel' nauki, prof. A.I. Arutyunov) i akushersko-gine-
kologicheskaya kafedra (zav. - zasluzhennyy deyatel' nauki USSR, chlen-
korrespondent AN USSR prof. O.Yu. Iur'ye [deceased]) Kiyevskogo ordena
Trudovogo Krasnogo Znameni meditsinskogo instituta im. akad. A.A. Bogo-
mol'tsa (direktor - dots. I.P. Alekseyenko).
(PAIN) (GYNECOLOGY)

ZOZULYA, Yu.A.; MIKHAYLOVSKIY, V.S.

Gases, alkaline reserve and glutathione of the blood and liquor in
brain tumors of varying histostructure. Probl.neirokhir. 4:185-208
'59. (MIRA 13:11)

(OXIDATION, PHYSIOLOGICAL)
(BRAIN--TUMORS)

LOGUNOVA, A.G. [Lohunova, A.H.], dotsent; MIKHAYLOVSKIY, V.S. [Mykhailovs'kiy, V.S.], kand.med.nauk

Some data on the action of aminazine in obstetrical and gynecological practice. Ped., akush. i gin. 22 no.4:54-57 '60. (MIRA 14:5)

1. Kafedra akusherstva i ginekologii (zav. - prof. O.Yu.Lur'ye [deceased]) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinskogo instituta im. akademika O.O.Bogomol'tsa (direktor - dotsent I.P.Alekseyenko) i Ukrainkogo nauchno-issledovatel'skogo instituta neyrokhirurgii (direktor - zasluzhenny deyatel' nauki, prof. O.I. Arutyunov).

(CHLORPROMAZINE)

(GYNECOLOGY)

MIKHAYLOVSKIY, V.S.; SVIRID, L.M., (Kiyev)

Disorders of the cardiovascular function in a painful syndrome
of the face. Vrach. delo no.7:67-71 J1'63. (MIRA 16:10)

1. Institut neyrokhirurgii Ministerstva zdravookhraneniya UkrSSR,
kafedra terapii instituta usovershenstvovaniya vrachev (nauchnyy
rukovoditel' - chlen-korrespondent AMN SSSR, prof. D.F.Chebotarev).
(CARDIOVASCULAR SYSTEM—DISEASES)
(NEURALGIA, FACIAL)

ARUTYUNOV, A.I., prof.; MIKHAYLOVSKIY, V.S., kand. med. nauk

Anatomico-physiological prerequisites for tractotomy in the medulla oblongata in trigeminal neuralgia. Vop. neirokhir. 28 no.1:6-12
Ja-F ' 64. (MIRA 18:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut neyrokhirurgii
(direktor - chlen-korrespondent AMN SSSR prof. A.I. Arutyunov),
Kiev.

MIKHAYLOVSKIY, V.S., kand.med.nauk

Decompression of the gasserian ganglion in treating neuralgia of
the trigeminal nerve. Vop. neirokhir. 28 no.6:27-31 N-D '64.
(MIRA 18:4)

Ukrainskiy nauchno-issledovatel'skiy institut neyrokhirurgii
(dir. - doktor med.nauk A.P.Romodanov), Kiyev.

L 39016-66
ACC NR: AP6017070

SOURCE CODE: UR/0154/65/000/005/0111/0117

AUTHOR: Mikheychev, V. S. (Candidate of technical sciences, Docent)ORG: Moscow Institute of Engineers of Geodesy, Aerial Photography and Cartography
(Moskovskiy Institut Inzhenerov geodezii, aerofotos"yemki i kartografii)

TITLE: Increasing the precision of compact optical range finders

SOURCE: IVUZ. Geodeziya i aerofotos"yemka, no. 5, 1965, 111-117

TOPIC TAGS: optic range finder, Kerr cell, ~~distance measuring equipment~~ *calibration*ABSTRACT: The problem of developing range finders capable of measuring distances 100 m to several km with a mean square error not exceeding ± 1 in 100,000 is discussed. The light range finders developed by Froom (1961) and in the German Democratic Republic (1965) are briefly described. The mean square error (m_D) of the distance measurements is

$$m_D = \sqrt{D^2 \left[\left(\frac{m_u}{u} \right)^2 + \left(\frac{m_f}{f} \right)^2 \right] + \left(\frac{u}{4\pi f} \right)^2 m_{\Delta\varphi}^2 + m_{b_1}^2 + m_c^2} \quad (1)$$

where D is the distance, u is the velocity of light, f is the modulation frequency of light, m_u , m_f , $m_{\Delta\varphi}$, m_{b_1} and m_c are the mean square errors in determining the velocity of light, frequency modulation, phase difference, constant of the apparatus, and

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UDC: 528.91

L 29050-66

ACC NR: AP6017070

orientation, respectively. The analysis shows that the construction of a more precise range finder necessitates the use of an objective detector, e.g. a photoelectronic amplifier and frequency modulation of light not exceeding 10^8 cps, which can be achieved by using the Kerr cell. A range finder developed in the German Democratic Republic, using modulation frequencies of 54×10^6 - 60×10^6 cps, permits the measurement of distances 1-170 m and above with mean square errors of ± 5 mm. Orig. art. has: 6 formulas and 3 figures.

SUB CODE: ¹⁷~~17~~ SUBM DATE: 28May65/ ORIG REF: 004/ OTH REF: 006

Card 2/2P/LP

SOV/177-58-2-21/21

17
AUTHORS: Mikhaylovskiy, V.T., Colonel in the Medical Service, Agafonov,
V.I., Lieutenant Colonel in the Medical Service, Docent

TITLE: A Collection of Scientific Works on Natural-Breeding-Ground and
Intestinal Infections in the Urals

PERIODICAL: Voenno-meditsinskiy zhurnal, 1958, Nr 2, pp 92-96 (USSR)

ABSTRACT: The article is a detailed review of this collection of articles.

Card 1/1

MIKHAYLOVSKIY, V.T., general-major med. sluzhby; AGAFONOV, V.I., polkovnik
~~med. sluzhby.~~ dots.

Some aspects of the prevention of influenza among troops of the
Soviet Army in 1957. Voen.-med. zhur. no.6:53-59 Je '58. (MIRA 12:7)

(INFLUENZA, prevention and control,

Asian, in armed forces personnel (Rus))

(ARMED FORCES PERSONNEL, dis.

Asian influenza, prev. & control (Rus))